CHAPTER 3 ENVIRONMENTAL ANALYSIS

This chapter presents the results of the IDT's analysis of potential environmental impacts, along with the information about the affected environment that is relevant to understanding the predicted impacts. In compliance with CEQ and NPS guidance on NEPA documents, information about existing resource conditions that is not useful to the appreciation of the impacts is not included.

3.1 Methodology

NEPA requires consideration of context, intensity, and duration of impacts, direct or indirect impacts, cumulative impacts, and measures to mitigate for impacts. NPS policy also requires that "impairment" of resources be evaluated in all environmental documents.

Overall, the NPS based the following impact analyses and conclusions on the review of existing literature and Weir Farm NHS studies, information provided by experts within the Park and other agencies, professional judgments and Park staff insights, the Connecticut State Historic Preservation Office, and public input.

3.1.1 General Impact Definitions

Potential impacts are described in terms of type (beneficial or adverse), context, duration, intensity, and impairment. The following general definitions were used to evaluate the context, intensity, duration, and cumulative nature of impacts associated with project alternatives. Impairment is discussed in Section 3.1.2 below. The specific criteria used to rate the intensity and duration of potential impacts for each resource topic are presented in Appendix B.

Context of Impact

Context is the setting within which an impact is analyzed, such as local, Park-wide, or regional. CEQ requires that impact analysis include discussions of context. Localized impacts are those that affect the resource area only on the project site or its immediate surroundings, and would not extend into the region.

Intensity of Impact

Impact intensity is the degree to which a resource would be beneficially or adversely affected by an action. Impact intensities are generally defined in graduated terms. Resource-specific criteria used to rate the intensity of project impacts are presented in Appendix B.

Duration of Impact

The duration of impact is analyzed independently for each resource because impact duration is dependent on the resource being analyzed. Depending on the resource, impacts may last as long as construction takes place, or a single year or growing season, or longer. For purposes of analysis,

impact duration is measured in short-term and long-term. Resource-specific criteria used to rate the duration of project impacts are presented in Appendix B.

Direct verses Indirect Impacts

Direct effects are impacts caused by the alternative(s) at the same time and in the same location as the action. Indirect effects are impacts caused by the alternative(s) that occur later in time or farther in distance than the action, but still reasonably foreseeable.

3.1.2 Impairment of Park Resources

In addition to determining the environmental consequences of the preferred and other alternatives, the NPS *2001 Management Policie*s (NPS, 2000a) and DO-12 (NPS, 2001) require analysis of potential effects to determine if actions would impair a Park's resources.

The fundamental purpose of the National Park System, established by the Organic Act and reaffirmed by the General Authorities Act, as amended, begins with a mandate to conserve Park resources and values. NPS managers must always seek ways to avoid or minimize to the greatest degree practicable adverse impacts on Park resources and values. However, the laws do give NPS management discretion to allow impacts to Park resources and values when necessary and appropriate to fulfill the purposes of a Park, as long as the impact does not constitute impairment of the affected resources and values. Although Congress has given NPS management discretion to allow certain impacts within parks, that discretion is limited by statutory requirement that the NPS must leave Park resources and values unimpaired, unless a particular law directly and specifically provides otherwise. The prohibited impairment is an impact that, in the professional judgment of the responsible NPS manager, would harm the integrity of Park resources or values, including opportunities that otherwise would be present for the enjoyment of those resources or values. An impact to any Park resource or value may constitute an impairment. However, an impact would more likely constitute an impairment to the extent it affects a resource or value whose conservation is:

- Necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the Park;
- Key to the natural or cultural integrity of the Park or to opportunities for enjoyment of the Park; or
- Identified as a goal in the Park's Master Plan or General Management Plan or other relevant NPS planning documents.

Impairment may result from NPS activities in managing the Park, visitor activities, or activities undertaken by concessionaires, contractors, and others operating in the Park. In this section, a determination on impairment is made in the conclusion statement of each resource area for each alternative. The NPS does not analyze the potential for impairment of recreational values/visitor experience (unless impacts are resource based), socioeconomic values, or Park operations.

3.1.3 Cumulative Impacts

CEQ regulations (40 CFR 1508.7) require the assessment of cumulative impacts in the decision-making process for Federal projects. A cumulative impact is an impact on the natural or human environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of which agency (Federal or non-Federal), organization, or person undertakes such other actions. Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time.

Cumulative impacts are considered for all alternatives and are presented at the end of each impact topic discussion analysis. To determine potential cumulative impacts, projects in the area surrounding proposed project site were identified. The area included the Weir Farm NHS and adjacent private and Federal lands. Potential projects identified as cumulative actions included any planning or development activity that was currently being implemented or that would be implemented in the reasonably foreseeable future.

These cumulative actions are evaluated in the cumulative impact analysis in conjunction with the impacts of each alternative to determine if they would have any additive effects on natural resources, cultural resources, visitor use, or the socioeconomic environment. Because some of these cumulative actions are in the early planning stages, the evaluation of cumulative effects was based on a general description of the project. Known past, current, and reasonably foreseeable future projects and actions in the vicinity of the project site are described below.

Past and Present Projects and Actions

Rehabilitate Old Branchville Road: In 2002, the Ridgefield Highway Department improved Old Branchville Road, including culvert replacement, riprap installation, and road repavement (Hill, 2004).

Pedestrian Walkway: In 2003, the NPS installed a new pedestrian walkway in the Historic Core area to provide a safe route for visitors. Standard construction techniques were employed to reduce erosion, and a Phase I archeological report was completed (NPS, 2003f).

Single Family Home: A single family home is currently under construction across Old Branchville Road from the proposed support facility site. An access road and bridge have been constructed; however, the completion date of the house is unknown (Turner, 2004a).

New Home Construction: A new home is planned to be constructed on the former Valentine property adjacent to the Westervelt-DiNapoli-Lecher property to the south. Vegetative clearing has already been conducted on the former Valentine property, but construction on the new home has not yet begun (Turner, 2004b).

Future Projects and Actions

Cultural Landscape Preservation and Restoration: The Burlingham House has been partially rehabilitated, as recommended by the Cultural Landscape Report (NPS, 2004). Additionally, several treatment actions recommended by the Report have been proposed, which would continue the restoration effort of the Weir Farm complex. The Park plans to rehabilitate and preserve the existing circulation system and the stone causeway, restore the meadow areas of the Weir complex, rehabilitate the meadow areas within the Pond and Woodland Area, restore pond views from the ridge top, stabilize the pig pen at the Weir complex, and rehabilitate stone diversion system within the Pond and Woodland Area (NPS, 2004).

Caretakers Cottage and Garage Renovation: The cottage across from the Weir House is the historical caretaker's residence. The NPS plans to renovate the cottage and the nearby garage as studios for the Artists in Residence Program. The Park would update the fire suppression system and make the studios ADA accessible (Turner, 2004a).

Caretakers Cottage and Garage Septic Installation: The NPS plans on installing a new septic system to accommodate the new studios. The existing septic would be removed and a new septic field would be installed in an adjacent location (Turner, 2004a).

Renovation of the Burlingham House: The NPS has proposed to renovate the Burlingham House as dormitories for the Artists in Residence Program. The Park plans to update the fire suppression system and make the house ADA accessible (Turner, 2004a).

Burlingham Barn Fire Suppression: The NPS plans to install a fire suppression system in the Burlingham Barn. The Burlingham Barn is currently the location of Park programs and storage (Turner, 2004a).

Rehabilitate Nod Hill Road: In 2005, the Ridgefield Highway Department plans to rehabilitate Nod Hill Road from the intersection of Old Branchville Road to the Ridgefield/Wilton town line. Plans are to improve drainage, replace culverts, install riprap, and repave the road (Hill, 2004).

3.1.5 Impacts to Cultural Resources and Section 106 of the National Historic Preservation Act

In this EA/Assessment of Effect, impacts to cultural resources are described in terms of type, context, duration, and intensity, as described above, which is consistent with CEQ regulations that implement NEPA. These impact analyses are intended, however, to comply with the requirements of both NEPA and Section 106 of the National Historic Preservation Act (NHPA). In accordance with the Advisory Council on Historic Preservation's (ACHP) regulations implementing Section 106 of the NHPA (36 CFR Part 800, *Protection of Historic Properties*), impacts to historic structures, cultural landscapes, and museum collections were identified and evaluated by (1) determining the area of potential effects; (2) identifying cultural resources present in the area of potential effects that were either listed in or eligible to be listed in the National Register of Historic Places (NRHP); (3) applying the criteria of adverse effect to

affected cultural resources either listed in or eligible to be listed in the NRHP; and (4) considering ways to avoid, minimize, or mitigate adverse effects.

Under the ACHP's regulations, a determination of either *adverse effect* or *no adverse effect* must also be made for affected, NRHP-eligible cultural resources. An *adverse effect* occurs whenever an impact alters, directly or indirectly, any characteristic of a cultural resource that qualify it for inclusion in the NRHP, e.g., diminishing the integrity of the resource's location, design, setting, materials, workmanship, feeling, or association. Adverse effects also include reasonably foreseeable effects caused by the preferred alternative that would occur later in time, be farther removed in distance or be cumulative (36 CFR Part 800.5, *Assessment of Adverse Effects*). A determination of *no adverse effect* means there is an effect, but the effect would not diminish in any way the characteristics of the cultural resource that qualify it for inclusion in the NRHP.

CEQ regulations and the NPS' *Conservation Planning, Environmental Impact Analysis and Decision-making* (DO #12) also call for a discussion of the appropriateness of mitigation, as well as an analysis of how effective the mitigation would be in reducing the intensity of a potential impact, e.g., reducing the intensity of an impact from major to moderate or minor. Any resultant reduction in intensity of impact due to mitigation, however, is an estimate of the effectiveness of mitigation under NEPA only. It does not suggest that the level of effect as defined by Section 106 is similarly reduced. Although adverse effects under Section 106 may be mitigated, the effect remains adverse.

3.2 Natural Resources

3.2.1 Soils, Geology, and Topography

3.2.1.1 Affected Environment

The proposed support facilities are underlain by soils formed from glacial till deposited by the retreating glacier and by alluvial deposits from glacial streams. The most commonly encountered soils in the project area are Charlton extremely fine sandy loam (3 to15 percent slope) and Charlton-Hollis fine sandy loams, very rocky, on a moderate (3 to 15 percent) slope. These soils are excessively well drained, with rapid surface runoff and moderate to rapid permeability. These soils typically exhibit undulating topography marked by exposed bedrock, a granitic gneiss. Stones and boulders cover anywhere from 1 to 35 percent of the surface of the site. Charlton soils are poorly suited for farming because of their rockiness. Most of the site is moderately to heavily wooded with light underbrush (NRCS, 1981; Mair and Ives, 2003).

The topography of the project area is steep, with an 80-foot elevation from Old Branchville Road to the construction site. The elevation ranges from 520 feet above mean sea level (MSL) at Old Branchville Road, to 560 feet above MSL at the Westervelt house, to 600 feet above MSL at the proposed maintenance/curatorial facility site. The ground slopes about 10 percent in the western portion of the proposed facility footprint and about 5 percent in the eastern portion of the footprint and parking area site. The existing residential structure, the Westervelt House, has no

formal stormwater controls. Uncontrolled stormwater runoff from the site to Old Branchville Road has been observed.

3.2.1.2 Environmental Consequences

No Action Alternative

There would be no improvement in stormwater controls on the site under the No Action alternative. Negligible to minor, long-term, localized impacts on soils would occur due to the continued loss of soils/sediment from runoff. No ground disturbance would occur under this alternative, and no other impacts on soils or geology are anticipated.

Preferred Alternative

The construction of the proposed maintenance/curatorial facility and renovation of the Westervelt House would result in short-term, minor, localized, adverse effects on soils and topography due to soil disturbance, compaction, vegetation removal, and grading. Ground-disturbing activity would be limited to approximately 2 acres: a 0.1 acre area behind the Westervelt House and a 1.9 acre area in the southern portion of the site for the proposed maintenance/curatorial facility. Due to the steep topography of the site, and the net increase in impervious surfaces, there is a potential for increased surface water runoff at the site over the long-term. Grading would also change the topography and drainage patterns of the site over the long-term. To reduce these impacts, the Park would develop a Stormwater Management Plan to control overland flow and reduce the potential for sedimentation. Storm water controls outlined in the Stormwater Management Plan, including 2 permanent sediment retention basins, would be installed prior in any ground disturbance to minimize any sediment transport. These measures would reduce long-term impacts on soils from increased surface water runoff and changes in drainage patterns to negligible. In addition, a *Soil Erosion and Sediment Control Plan* would be developed as outlined in Connecticut's *Guidelines for Soil and Erosion Control* (2002) and the *Connecticut Soil Erosion and Sediment Control Act*, Sections 22a- 325 to 22a-329. Adherence to Connecticut's erosion control guidelines would minimize any adverse impacts to soils to a minor level during construction.

Soil compaction can occur from the use of heavy equipment during construction activities. Compaction increases the impermeability of the soil, which could contribute to short-term, increased surface water runoff from the project site, and subsequent increases in erosion and sedimentation. Soil compaction can also impede root growth, inhibiting revegetation. Construction equipment would be staged in the central courtyard area, which would be paved near the end of the construction phase. This would largely eliminate the potential for soil compaction as a result of equipment storage. In addition, construction would not be conducted when soils are saturated, such as during or immediately following rain events.

Blasting would occur on the western most edge of the site, if all other means to remove the rock, such as manual excavation, fail. Vibrations from the blasts that are transmitted to the surrounding ground are not likely to travel out past the construction limits (300 feet) because of the small size of the explosive charge and the controls in place to minimize such an occurrence.

Implementation of proper explosion practices would reduce any possible adverse impacts to geology to negligible to minor in intensity.

3.2.1.3 Cumulative Impacts

Past and present projects in the vicinity of the project area that have impacted or are currently impacting soils include installation of the pedestrian walkway in the Historic Core, construction a new home on Old Branchville Road across the street from the project site, vegetative clearing and subsequent construction of a new home on the former Valentine property, and rehabilitation of Old Branchville Road. Future projects that are anticipated to impact soils include the cultural landscape preservation program, caretakers cottage and garage renovation and septic installation, and rehabilitation of Nod Hill Road. Impacts on soils from these past, present, and future actions have included or would include short-term, minor, localized, adverse impacts on soils from soil disturbance and compaction; long-term, minor, adverse impacts to soils from permanent vegetation removal and subsequent increases in surface water runoff and erosion potential; long-term, negligible, localized, adverse impacts to soils from an increase in impervious surfaces and subsequent increases in runoff; and long-term, minor, localized, beneficial impacts on soils from activities to restore the cultural landscape at Weir Farm and from rehabilitation of drainage structures along Nod Hill Road. When taken together, the cumulative impacts on soils from these other projects would be short-term and long-term, minor, localized, and adverse, although there would be a beneficial component due to restoration and rehabilitation projects.

No Action Alternative

The No Action alternative would result in continued, negligible to minor, long-term impacts on soils due to the continued loss of soils/sediment from runoff at the project site. The cumulative effects on soils from other past, present, and reasonably foreseeable projects, in conjunction with the No Action alternative, would be both short- and long-term, minor, adverse, and localized. The No Action alternative would contribute a relatively small increment to these cumulative effects over the long-term.

Preferred Alternative

The Preferred Alternative would result in short-term, minor, localized, adverse impacts on soils due to grading, vegetation removal, and compaction during construction, and long-term, negligible, localized, adverse impacts on soils from an increase in impervious surfaces on the project site. The cumulative effects on soils from other past, present, and reasonably foreseeable projects, in conjunction with the Preferred Alternative, would be short-term and long-term, minor, adverse, and localized. The Preferred Alternative would contribute a minimal amount to the total cumulative effects.

3.2.1.4 Conclusion

No Action Alternative

Negligible to minor, long-term, adverse impacts to soils would occur as a result of the No Action alternative due to the continued loss of sediment from runoff. The cumulative effects on soils from other past, present, and reasonably foreseeable projects, in conjunction with the No Action alternative, would be short-term and long-term, minor, adverse, and localized. No impairment of the Park's soil resources would occur.

Preferred Alternative

Construction activities under the Preferred Alternative would have short-term, minor, localized, adverse impacts on soils from grading, vegetation removal, and compaction. Blasting has the potential to result in negligible to minor adverse impacts on geology. Impacts on soils from an increased amount of impervious surfaces on the project site would be long-term, but negligible. The cumulative effects on soils from other past, present, and reasonably foreseeable projects, in conjunction with the Preferred Alternative, would be short-term and long-term, minor, adverse, and localized. No impairment of the Park's soil resources would occur.

3.3 Cultural Resources

3.3.1 Cultural Landscapes

3.3.3.1 Affected Environment

Weir Farm NHS consists of 2 discontinuous parcels. The largest parcel, the Historic Core, includes approximately 194 acres of the 245-acre farm owned by J. Alden Weir, and was listed as a district on the National Register of Historic Places (NRHP) in 1984. The approximately 59-acre Weir Farm NHS (included within the 194 acres) was listed on the NRHP on November 30, 1990 (P.L. 101-485) after the establishment of the park. The Historic Core includes the home, outbuildings, and the J. Alden Weir farm. Weir Farm is nationally significant as the home and studio of J. Alden Weir (1852-1919), an eminent American impressionist painter. Subsequent owners of Weir Farm followed in Weir's artistic tradition. Weir's daughter Dorothy Weir Young painted at the farm, and her husband Mahonri Young sketched the farm landscape and sculpted in his studio built on the premises in 1932. Today, approximately 75 percent of the farm within the park boundaries is forested. Open areas maintained by the park include acreage within the historic bounds of the Webb Farm (later known as the Burlingham property), acreage immediately surrounding the Weir/Young house, studios, and outbuildings and an open field dotted with mature trees. Extant buildings include the Weir/Young House and Barn, the Webb House and Barn (later known as the Burlingham property), the caretaker's house, and Weir's studio. Additional extant buildings dating to the 1930s include the Young Studio and several outbuildings. The NPS has rehabilitated the Burlingham House for use as a visitor center. Weir Farm is listed as significant under National Register of Historic Places (NRHP) Criteria B for its association with artist J.

Alden Weir. The Weir House, the Weir and Young studios, and the farm outbuildings are listed as significant under Criterion C as a unique building complex in the State of Connecticut.

The smaller parcel consists of the 8.97-acre Westervelt-DiNapoli-Lecher property, which was purchased by the NPS in 2000 for the purpose of constructing maintenance, curatorial, and administrative facilities for the Weir Farm NHS. The Westervelt-DiNapoli-Lecher property is not included within the acreage once owned by J. Alden Weir, and therefore, does not possess significance under Criterion B. In addition, the Westervelt-DiNapoli-Lecher property was historically used for agricultural purposes and is not significant under any NRHP Criteria.

A cultural landscape report for Weir Farm NHS was completed in 1997, and a Level I Cultural Landscapes Inventory was completed in 2003. This Cultural Landscapes Inventory included both parcels of land to the level necessary to provide a recommendation on the eligibility of the recently acquired property for listing on the NRHP. The NPS finds that this smaller parcel is not eligible for listing on the NRHP because it does not meet NRHP criteria, but has not yet received concurrence from the Connecticut SHPO (NPS, 2003e).

3.3.3.2 Environmental Consequences

No Action Alternative

Under the No Action alternative, the proposed maintenance/curatorial facility would not be constructed, and the Westervelt house would not be renovated. Continued use of the Historic Core for administrative offices and storage of museum objects and maintenance equipment would place undue stress on a number of identified cultural resources, including elements of the cultural landscape, such as paths, roads, structures, and stonewalls. The No Action alternative would result in minor, long-term, adverse impacts on the cultural landscape at Weir Farm.

Preferred Alternative

The Preferred Alternative would remove maintenance equipment and museum collections storage from buildings in the Weir Farm Historic District. This would reduce wear-and-tear on historic buildings and remove routine maintenance operation functions from the historic landscapes, which would enhance preservation and stabilization of the cultural landscape. This would result in a minor beneficial impact to cultural landscapes at Weir Farm NHS over the long-term because it would preserve landscape patterns and features in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties With Guidelines for Treatment of Cultural Landscapes.*

3.3.3.3 Cumulative Impacts

Past projects in the vicinity of the project area that have impacted the cultural landscape at Weir Farm include the installation of the pedestrian walkway in the Historic Core, which resulted in minor, adverse impacts to the cultural landscape. Vegetative clearing and planned construction of a new home south of the proposed project site has not, and is not projected to, impact the cultural landscape at Weir Farm. Future projects that are anticipated to impact the cultural

landscape include the cultural landscape preservation and restoration program and renovation of the caretakers cottage and garage, Burlingham House, and Burlingham Barn. These future projects are anticipated to have a long-term, major, beneficial impact on the cultural landscape at Weir Farm. Overall, cumulative impacts on the cultural landscape of Weir Farm from implementation of these other projects would be minor and adverse over the short-term, and major and beneficial over the long-term.

No Action Alternative

The cumulative effects on the cultural landscape from other past, present, and reasonably foreseeable projects, in conjunction with the No Action alternative, would be minor and adverse over the short-term, and major and beneficial over the long-term, due to the implementation of the cultural landscape preservation and restoration program. While the No Action alternative would not work towards these beneficial impacts, and would result in minor, long-term, adverse impacts on the cultural landscape, implementation of other planned projects at the Park would greatly enhance the cultural landscape at Weir Farm over the long-term. The No Action alternative would not contribute appreciably to cumulative impacts on the cultural landscape.

Preferred Alternative

The Preferred Alternative would result in minor, long-term, beneficial impacts on the cultural landscape by removing culturally insignificant items and improving preservation. The cumulative effects on the cultural landscape from other past, present, and reasonably foreseeable projects, in conjunction with the Preferred Alternative, would be long-term, major, and beneficial, due to the implementation of the cultural landscape preservation and restoration program. However, the Preferred Alternative would contribute only a relatively small amount to these beneficial cumulative impacts.

3.3.3.4 Conclusion

No Action Alternative

The No Action alternative would result in minor, long-term, adverse impacts on the cultural landscape at Weir Farm from the continued use of the Historic Core as administrative offices and Park storage. Because there would be no major adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the park's establishing legislation, (2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or (3) identified as a goal in the park's GMP or other relevant NPS planning documents, there would be no impairment of park resources or values related to cultural landscapes under the No Action alternative at Weir Farm NHS. Cumulative impacts on the cultural landscape from implementation of other past, present, and future projects would be minor and adverse over the short-term, but major and beneficial over the long-term. However, the No Action alternative would not contribute appreciably to these cumulative impacts.

Preferred Alternative

The Preferred Alternative would result in minor, long-term, beneficial impacts on cultural landscapes by removing culturally insignificant items and improving preservation. In addition, the Preferred Alternative would contribute a relatively small amount to long-term, major, beneficial cumulative impacts on cultural landscapes. Because there would be no major adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the park's establishing legislation, (2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or (3) identified as a goal in the park's GMP or other relevant NPS planning documents, there would be no impairment of park resources or values related to cultural landscapes under the Preferred Alternative at Weir Farm NHS.

3.3.2 Museum Collections

3.3.2.1 Affected Environment

At the heart of Weir Farm's mission is the collection and exhibition of art as a way of reuniting historic property- domestic interiors, studios, and landscape- with the art that it inspired. The Weir Farm scope of collections statement calls for collections to include works by J. Alden Weir, his Impressionist colleagues (Mahonri Young, Sperry Andrews), and other contemporary artists.

Museum collections are generally ineligible for listing on the NRHP. Weir Farm NHS has a collection of approximately 203,000 objects at present, including oil paintings, watercolors, drawings, photographs, etchings, and furnishings. The collections also include archeological artifacts and records associated with archeological research undertaken on the site. Currently, these objects are housed in a number of locations all over the Park, including the Burlingham House/visitor center, Weir House, Weir and Young studios, Weir Barn, and the former wire mill facility leased by the Park in Georgetown. None of these facilities have storage conditions that meet NPS museum standards (security, climate, fire suppression) as outlined in the *NPS Museum Handbook* and DO #24. According to the Park's GMP, museum quality environmental controls necessary to preserve collections of furnishings and art in the main house, Weir Studio, and Young Studio cannot be installed without compromising the fabric, structure, and appearance of these historic buildings (the Historic Core of the Park) (NPS, 1995).

Although Weir Farm's museum collection is currently stored in facilities that do not meet NPS museum standards, objects in the collection are stored under the best conditions possible. Many items in the collection are stored off-site, including paintings, which are on loan to area museums. Other items are prepared for archival storage (wrapped and stored in archival packaging). Many paper records and other museum items are stored off-site at the leased wire mill facility in Georgetown (Evans and Sikoryak, 2004).

3.3.2.2 Environmental Consequences

No Action Alternative

It is NPS policy to protect and preserve museum objects, specimens, and archival and manuscript collections (NPS, 2000a). While Weir Farm's storage facilities would continue to not meet NPS museum standards (security, climate control, and fire suppression) for conservation of artwork, archeological artifacts, or material objects under the No Action alternative, the NPS would continue to preserve museum objects through ongoing preventive care and would continue to seek appropriate and adequate curatorial storage facilities for the Weir Farm museum collection (such as loans to area museums and other off-site storage). Although some of the Park's museum collection would continue to be at risk from fire, vandalism, and climate fluctuations, this would represent a minor, adverse impact on museum collections over the long-term, since only a few items in the collection could suffer a loss of integrity.

Preferred Alternative

The proposed new curatorial facility would include an environmental control system that would ensure that NPS museum collection environmental standards are maintained, as outlined in the *NPS Museum Handbook* and DO #24, *NPS Museum Collections Management*. The relatively centralized nature of the curatorial facility would be cost-efficient and promote a high standard of collection care. The condition of the Park's museum collection would be improved over the long-term. Therefore, the Preferred Alternative would result in moderate, long-term, beneficial impacts to the preservation and protection of the Park's museum collection.

3.3.2.3 Cumulative Impacts

There are no other past, present, or reasonably foreseeable future actions that would impact museum collections.

No Action Alternative

Although the No Action alternative would result in a long-term, minor, adverse impact on museum collections, since there are no other past, present, or future actions proposed that would impact museum collections, there would be no cumulative impacts on museum collections under the No Action alternative. Any potential future projects that have the potential to affect museum collections would be conducted in accordance with *Director's Order #24: NPS Museum Collections Management* and *NPS Museum Handbook*.

Preferred Alternative

The Preferred Alternative would result in moderate, long-term, beneficial impacts to Weir Farm's museum collection. However, there are no other past, present, or future actions proposed that would impact museum collection. Therefore, there would be no cumulative impacts on museum collections under the Preferred Alternative. Any potential future projects that have the

potential to affect museum collections would be conducted in accordance with *Director's Order #24: NPS Museum Collections Management* and *NPS Museum Handbook.*

3.3.2.4 Conclusion

No Action Alternative

The No Action alternative would result in minor, long-term, adverse impacts on museum collections, but would not result in any cumulative impacts on this resource area. Because there would be no major adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the park's establishing legislation, (2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or (3) identified as a goal in the park's GMP or other relevant NPS planning documents, there would be no impairment of park resources or values related to museum collections under the No Action alternative at Weir Farm NHS.

Preferred Alternative

The Preferred Alternative would result in a moderate, long-term, beneficial impact on the preservation and protection of the Park's museum collections. No cumulative impacts on the museum collection would occur under this alternative. Because there would be no major adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the park's establishing legislation, (2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or (3) identified as a goal in the park's GMP or other relevant NPS planning documents, there would be no impairment of park resources or values related to museum collections under the Preferred Alternative at Weir Farm NHS.

3.3.3 Historic Structures

3.3.3.1 Affected Environment

National Register of Historic Places

In order for a structure or a building to be listed in the NRHP, it must be associated with an important historic context, i.e. possess significance – the meaning or value ascribed to the structure or building and have integrity of those features necessary to convey its significance, i.e., location, design, setting, workmanship, materials, feeling, and association.

The Weir Farm NHS is designated as a Historic District in the NRHP. There are six man structures listed under the NRHP designation: the Weir House, Weir Barn, Weir and Young Studios, tack house, and garden shed (NPS, 2003e; 2004). Other structures considered important to the Historic District include the Burlingham House, Burlingham Barn, woodshed, tool house, well house, and Caretaker's cottage and barn, as well as gardens, trails and walkways, fences, stone terraces, outbuildings, a pond, fishing bridge, boathouse, and a small summer house at the pond (NPS, 2004). Together, these structures make up Weir Farm's Historic Core.

Currently, seasonal landscaping equipment and general small maintenance equipment are stored in the Burlingham House, Burlingham Barn, and wood shed. The Burlingham House is also

used the Park's visitor center and houses the administrative offices for the Weir Farm Trust and the NPS. The Weir House, Weir and Young Studios, and the Weir barn are used as storage facilities for art, furniture, and other artifacts.

On the Westervelt-DiNapoli-Lecher property, there are remnants of a fieldstone wall system in varying states of integrity, several piles of fieldstone, and several locations of boulder quarrying. None of these structures are considered significant resources under NRHP criteria (Mair and Ives, 2003).

3.3.3.2 Environmental Consequences

No Action Alternative

Under the No Action alternative, the proposed maintenance/curatorial facility would not be constructed and the Westervelt House would not be renovated. The buildings and structures in the Historic Core may deteriorate as a result of their continued use as maintenance, storage, and visitor services facilities. The No Action alternative would result in a minor, long-term, adverse impact to historic structures because it would result in the alteration of a feature, but would not diminish the overall integrity of the resource. NPS policy is to provide for the long-term preservation of the features, materials, and qualities contributing to the significance of cultural resources and current management practice would be consistent with NPS policy.

Preferred Alternative

Using the Burlingham House, Burlingham Barn, and wood shed as maintenance equipment storage, and Weir House, Weir and Young Studios, and the Weir Barn as museum storage has been causing unwanted "wear-and-tear" on these historic structures. Relocating maintenance equipment and museum storage to the proposed new maintenance/curatorial facility would remove much of the burden on the historic structures in the Historic Core, allowing for improved stabilization and cultural preservation. The wood shed, for example, would no longer need the door and lock that was added to keep maintenance equipment secure, which would allow it to return to its open and original state (Turner, 2004a). Long-term, minor, beneficial impacts on historic structures are anticipated.

3.3.3.3 Cumulative Impacts

Past, present, and future projects that have impacted or are anticipated to impact historic structures at Weir Farm include the cultural landscape preservation and restoration program and renovation of the caretakers cottage and garage, Burlingham House, and Burlingham Barn. Together, these projects are anticipated to have long-term, moderate, beneficial impacts on historic structures due to restoration efforts and enhanced protection of historic structures.

No Action Alternative

The No Action alternative would result in a minor, long-term, adverse impact to historic structures from continued use of the structures as equipment and museum storage. While the No

Action alternative would not work to beneficially affect historic structures, implementation of other planned projects would improve the current conditions and work to preserve historic structures at the Park over the long-term. Therefore, the overall cumulative effects on historic structures from other past, present, and reasonably foreseeable projects, in conjunction with the No Action alternative, would be short-term, minor, and adverse and long-term, moderate, and beneficial, due to other efforts to restore and protect historic structures at Weir Farm. The No Action alternative would not contribute appreciably to the total cumulative impacts on historic structures.

Preferred Alternative

The Preferred Alternative would result in minor, long-term, beneficial impacts on historic structures by reducing wear and tear on the structures, allowing for their improved stabilization and preservation. The cumulative effects on the cultural landscape from other past, present, and reasonably foreseeable projects, in conjunction with the Preferred Alternative, would be long-term, moderate, and beneficial. The Preferred Alternative would contribute a relatively small amount to these beneficial cumulative impacts.

3.3.3.4 Conclusion

No Action Alternative

The No Action alternative would result in a minor, long-term, adverse impact to historic structures from continued use of the structures as equipment and museum storage. The cumulative effects on historic structures from other past, present, and reasonably foreseeable projects, in conjunction with the No Action alternative, would be short-term, minor, and adverse and long-term, moderate, and beneficial, due to other efforts to restore and protect historic structures at Weir Farm. Because there would be no major adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the park's establishing legislation, (2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or (3) identified as a goal in the park's GMP or other relevant NPS planning documents, there would be no impairment of park resources or values related to historic structures under the No Action alternative at Weir Farm NHS.

Preferred Alternative

The Preferred Alternative would result in minor, long-term, beneficial impacts on historic structures by reducing wear and tear on the structures, allowing for their improved stabilization and preservation. In addition, this alternative would contribute a relatively small increment to moderate, long-term, beneficial cumulative impacts on the Park's historic structures. Because there would be no major adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the park's establishing legislation, (2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or (3) identified as a goal in the park's GMP or other relevant NPS planning documents, there would be no impairment of park resources or values related to historic structures under the Preferred Alternative at Weir Farm NHS.

3.3.4 Section 106 Summary

Under the Preferred Alternative, maintenance equipment and museum storage would be removed from the Weir Farm Historic District, which would reduce wear and tear on historic structures and allow for their improved stabilization and preservation. After applying the ACHP's criteria of adverse effect (36 CFR 800), the NPS proposes that implementing the Preferred Alternative would result in a determination of *no adverse effect* on cultural resources, but the NPS has not yet received concurrence from the Connecticut SHPO.

3.4 Socioeconomic Resources

3.4.1 Gateway Communities

Gateway Community: A community that exists in close proximity to a national park, and whose residents and elected officials often have shared interests and concerns regarding decisions that are made in managing the park. Gateway communities usually offer food, lodging, and other services to park visitors. They also provide opportunities for employee housing, and a convenient location to purchase goods and services essential to park administration.

3.4.1.1 Affected Environment

Adjacent to Weir Farm NHS are several residential subdivisions, some developed on land formerly part of the original Weir property. The neighborhood surrounding Weir Farm is comprised of residential lots and large open parcels of land. Weir Farm is a component of a network of nearly 300 contiguous acres of open space. The surrounding area is zoned for two-acre residential development (NPS, 2004).

3.4.1.2 Environmental Consequences

No Action Alternative

The No Action alternative would not result in any impacts to the gateway community.

Preferred Alternative

The construction phase of the Preferred Alternative would likely to result in minor, short-term, adverse impacts on Town of Ridgefield and surrounding community. A negligible to minor, short-term increase in traffic congestion would likely occur. However, the NPS would minimize traffic disturbances during peak travel times (7 a.m. to 10 a.m. and 3 p.m. to 6 p.m.) to affect the fewest number of commuters possible (see Section 3.4.2, *Traffic and Transportation*).

The residents adjacent to the proposed new facilities would likely experience moderate, short-term, adverse impacts from construction noise (see Section 3.4.3, *Noise*), particularly during blasting and excavation activities. However, construction activities would be restricted to daytime periods only, when some neighbors would be out of their houses, and would not affect nighttime activities at any of the residences. In addition, adjacent residents may experience

minor to moderate changes in the viewsheds from their houses (see Section 3.4.4, *Visual Resources*). However, the NPS would ensure vegetative screening is kept between adjacent residences and the construction site to reduce these impacts.

The NPS has made an effort to minimize the intensity of construction activity impacts by implementing the mitigation measures outlined in Section 2.3. The NPS also has met with the Ridgefield Planning and Zoning Board to confirm that their design does not violate any Town zoning ordinances.

No impacts on the gateway community, including adjacent residents, are anticipated to result from operation of the new facilities over the long-term. While the Preferred Alternative may result in a negligible increase in visitation to Weir Farm (such as from implementation of the Artists in Residence Program), and associated negligible increases in traffic in the area, this increase is not anticipated to be noticeable to the gateway community.

3.4.1.3 Cumulative Impacts

Past and present projects in the vicinity of the project area that have impacted or are currently impacting the gateway community include construction a new home on Old Branchville Road across the street from the project site, vegetative clearing and subsequent construction of a new home on the former Valentine property, and rehabilitation of Old Branchville Road. Future projects that are anticipated to impact the gateway community include the rehabilitation of Nod Hill Road. Impacts on the gateway community from these past, present, and future actions have included or would include short-term, minor to moderate, localized, adverse impacts associated with increased noise and traffic from construction activities; short-term, minor, localized, adverse impacts on visual quality from construction sites; long-term, negligible, localized, adverse impacts on traffic; and long-term, minor, localized, beneficial impacts on road conditions. When taken together, the cumulative impacts on the gateway community from these other projects would be minor to moderate, localized, and adverse over the short-term, and minor, localized, and beneficial over the long-term.

No Action Alternative

Since the No Action alternative would not result in any impacts to the gateway community, this alternative would not contribute to cumulative impacts on the gateway community.

Preferred Alternative

While the Preferred Alternative would have minor to moderate, short-term, adverse impacts on the gateway community as a result of construction activities, there would be no noticeable long-term impacts to the gateway community. The cumulative effects on the gateway community from other past, present, and reasonably foreseeable projects, in conjunction with the Preferred Alternative, would be moderate, localized, and adverse over the short-term. The Preferred Alternative would contribute a measurable amount to these short-term cumulative impacts. However, this alternative would not contribute to any noticeable extent to cumulative impacts over the long-term.

3.4.1.4 Conclusion

No Action Alternative

The No Action alternative would not directly, indirectly, or cumulatively impact the gateway community.

Preferred Alternative

Construction under the Preferred Alternative would have minor, short-term, adverse impacts on the surrounding community, and moderate, short-term, adverse impacts on adjacent residences due to construction noise, traffic, and viewshed changes. The cumulative effects on the gateway community from other past, present, and reasonably foreseeable projects, in conjunction with the Preferred Alternative, would be moderate, localized, adverse, and short-term. No noticeable long-term impacts to the gateway community would result from the Preferred Alternative.

3.4.2 Transportation and Traffic

3.4.2.1 Affected Environment

The road system near Weir Farm NHS consists of narrow 2-lane roads with minimal to no shoulders, extensive curves, and numerous residential access points. These roads can expect to accommodate up to 6,000 vehicles per day. A traffic study completed in 1997 tallied approximately 800 vehicles on Old Branchville Road and Nod Hill Road, and projected an increase in average annual daily traffic (AADT) in 2010 onward that would not exceed 1,000 vehicles per day. Weir Farm NHS traffic would constitute about 7 percent of total traffic on the local road system in the future (NPS, 1997a).

The NPS found that expansive parking areas were not appropriate for Weir Farm NHS. Visitor parking is accommodated with in a small (about 15 spaces) visitor parking lot directly across Nod Hill Road from the Burlingham House. The capacity of the lot is inadequate on peak days, is a dead-end configuration that is problematic when the lot is full, and requires a lot of staff time to manage when near or at capacity (ATP, 2003). In addition, NPS staff currently working out of the Burlingham House take up 6 to 8 parking spaces in this lot on a daily basis (Turner, 2004b). Overflow parking is available for special events only, and is located off-site at Branchville Elementary School with shuttle service to Weir Farm (off Route 102) (ATP, 2003).

3.4.2.2 Environmental Consequences

No Action Alternative

The No Action alternative would not result in any impacts on transportation within the vicinity of the project area. Average daily traffic levels would continue under current patterns. There would be no activities occurring under this alternative that would have the potential to increase

congestion or damage roads in the area. Issues regarding inadequate visitor parking capacity at the park would continue.

Preferred Alternative

In general, the number of construction vehicles entering the site is not expected to contribute to a large increase in the AADT, or to traffic congestion, on roads surrounding the new support facilities, although temporary slows in traffic speed may occur, particularly at the turn-in to the project site. Most of the construction vehicles would travel west on Old Branchville Road to access the construction site. Residents may experience some increased traffic congestion; however, the NPS would minimize traffic disturbances during peak travel times (7 a.m. to 10 a.m. and 3 p.m. to 6 p.m.). All required signage per the *Manual on Uniform Traffic Control Devices* (USDOT, 2001) would be installed and maintained around the construction site and along Old Branchville Road during construction to notify travelers of the work zone. The potential for congestion from this traffic is expected to be short-term and negligible in intensity.

Impacts associated with the operation of the new support facilities would include a slight increase in traffic in the vicinity of the new facilities. While the 5 employees who currently work in the Georgetown wire mill would make 1 or 2 fewer trips to and from Weir Farm NHS per day, reducing driving mileage by 19,000 miles a year, deliveries that were once made to the wire mill now would be delivered to the new support facility. Deliveries to the administrative/ curatorial/maintenance facility would not exceed 2 to 3 small deliveries daily (with approximately 5 larger shipments annually). The Park would only accommodate single-body trucks no more than 40-feet long, due to site limitations, including the tight turn of the driveway intersection, narrowness and steepness of the site access drive, and narrowness of the local roads. The traffic caused by these vehicles would be minimal and not noticeable to local drivers. No changes in the current level of service ratings for any nearby roadway would occur.

Level of Service: Rating for a roadway, defined by a range of traffic volume to roadway capacity, which is used to express performance of a roadway segment.

Only a negligible increase in visitation to Weir Farm NHS is anticipated to result from the Preferred Alternative. This slight increase would have only negligible, localized, adverse impacts on the nearby transportation system.

Several parking spaces would become available to visitors as a result of the administrative offices being moved out of the Historic Core area. Overall, impacts to traffic from the operation of the new support facilities would be long-term, negligible to minor, localized, and beneficial.

3.4.2.3 Cumulative Impacts

Past and present projects in the vicinity of the project area that have impacted or are currently impacting traffic or the area transportation system include construction a new home on Old Branchville Road across the street from the project site, vegetative clearing and subsequent construction of a new home on the former Valentine property, and rehabilitation of Old Branchville Road. Future projects that are anticipated to impact traffic and the transportation system include the rehabilitation of Nod Hill Road. Impacts on traffic and the transportation

system from these past, present, and future actions have included or would include short-term, minor, localized, adverse impacts associated with construction or rehabilitation activities; long-term, negligible, localized, adverse impacts on traffic from new residents; and long-term, minor, localized, beneficial impacts on road conditions. When taken together, the cumulative impacts on traffic and the transportation system from these other projects would be minor, localized, and adverse over the short-term, and minor, localized, and beneficial over the long-term.

No Action Alternative

Since the No Action alternative would not have any impacts on transportation, this alternative would not contribute to cumulative impacts on transportation.

Preferred Alternative

The Preferred Alternative would result in negligible, localized, adverse impact on traffic and the area transportation system over the short-term, long-term impacts on these resources would be negligible to minor, localized, and beneficial. The cumulative effects on traffic and the transportation system from other past, present, and reasonably foreseeable projects, in conjunction with the Preferred Alternative, would be minor, localized, and adverse over the short-term, but minor, localized, and beneficial over the long-term. The Preferred Alternative would contribute a relatively small increment to these total cumulative effects.

3.4.2.4 Conclusion

No Action Alternative

The No Action alternative would not result in any direct, indirect, or cumulative impacts on transportation within the vicinity of the project area.

Preferred Alternative

While a short-term, localized, negligible, adverse impact on traffic and the area transportation system would occur as a result of construction activities under the Preferred Alternative, operation of the new support facilities would have long-term, localized, negligible to minor, beneficial impacts on these resources. The cumulative effects on traffic and the transportation system from other past, present, and reasonably foreseeable projects, in conjunction with the Preferred Alternative, would be minor, localized, and adverse over the short-term, but minor, localized, and beneficial over the long-term.

3.4.3 Noise

A logarithmic unit known as the decibel (dB) is used to represent the intensity of a sound. Such a representation is called a sound level. To more accurately assess the loudness of sounds as heard by the human ear, sound levels are reported in this section on the A-weighted decibel (dBA) scale, which is progressively reduced in sensitivity to very low and very high-pitched sounds (DOD, 1978).

To assess accurately the impacts of noise exposure on an entire community, dB sound levels are commonly expressed with a measure that describes the cumulative effects of noise levels over time. The most commonly employed cumulative noise measure for environmental analysis is the Day-Night Sound Level (Ldn). This measure (expressed in dB) describes the cumulative noise exposure expected from all major noise sources over a 24-hour period. Using the Ldn system, 10 dB is added to the assessment of sound produced by activities occurring between 10 p.m. and 7 a.m. This addition places greater weight on the noise produced by nighttime activities due to the higher sensitivity of communities to noise during these hours (DOD, 1978).

3.4.3.1 Affected Environment

Certain facilities, communities, and land uses are more sensitive to a given level of sound than others. Such "sensitive receptors" include schools, churches, residences, hospitals, retirement homes, recreational facilities, and certain species of threatened or endangered wildlife. Impacts from noise production are generally assessed with respect to changes in noise levels experienced at sensitive receptors. There are several sensitive receptors located in the vicinity of the proposed project site, all of which are residences. The nearest residence to the Westervelt House is located approximately 300 feet away. The proposed new maintenance/ curatorial facility site is located approximately 300 feet from an adjacent seasonal (warmer months) residence, approximately 500 feet from nearest full-time residence to the west, and approximately 750 feet from the nearest full-time residence to the east.

Different types of land uses and noise receptors vary in their acceptance of noise disturbance. As a result, noise impacts for different receptors are often assessed using different noise level standards. Recommended land use and associated noise levels are illustrated in Table 3-1.

Table 3-1. Recommended Land Use Noise Levels

Land Use Category	Noise Levels (Ldn)*			
	Clearly Acceptable	Normally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential	< 60	60-65	65-75	> 75
Commercial, Retail	< 65	65-75	75-80	> 85
Commercial, Wholesale	< 70	70-80	80-85	> 85
Office Buildings	< 65	65-75	75-80	> 80
Manufacturing	< 55	55-70	70-80	> 80
Agriculture, Farming	< 75	> 75	N/A	N/A
Natural Rec. Areas	< 60	60-75	75-85	> 85
Hospitals	< 60	60-65	65-75	> 75
Schools	< 60	60-65	65-75	> 75
Libraries	< 60	60-65	65-75	> 75
Churches	< 60	60-65	65-75	> 75
Playgrounds	< 55	55-65	65-75	> 75
*Noise levels depicted here are consistent with provisions of the Federal Noise Control Act of 1972 (42 USC 4901-4918).				

Source: HUD, 1991

Although ambient noise levels have not been measured in the project area, the existing acoustic environment can be inferred based on noise levels typically associated with particular land uses in the nearby area. The Proposed Action is located in a mixed developed and forested setting on public lands. The developed area on the site (the Westervelt House) is currently not being used for any purposes. The remainder of the site is vegetated.

Overall, there are very few noise sources at the project site, and there are no sources of continuous noise. The primary source of noise at the project site is vehicular traffic on Old Branchville Road, which is used to access the project site, as well as nearby homes. Park staff and visitors (primarily during daytime hours), as well as nearby residents, use this road. These noise sources are transient and irregular.

3.4.3.2 Environmental Consequences

No Action Alternative

Under the No Action alternative, there would be no activities occurring that would increase or decrease noise levels in the area. No noise impacts on sensitive receptors would occur. Noise levels in the area would continue under current patterns.

Preferred Alternative

Noise generated from the use of equipment during construction under the Preferred Alternative would temporarily disturb wildlife adjacent to the construction site, and could cause the short-term displacement of some species. However, since this equipment would be used only for a relatively short duration (the duration of construction), any displaced wildlife would be expected to return to the area upon completion of construction. No permanent displacement of wildlife is expected to occur.

Construction noise could also adversely affect occupants of nearby residences. As discussed above, there are several sensitive receptors located in the vicinity of the proposed project site, all of which are residences. The nearest residence to the Westervelt House is located approximately 300 feet away (based on GIS calculations). The proposed new maintenance/curatorial facility site is located approximately 300 feet from an adjacent seasonal (warmer months) residence, approximately 500 feet from nearest full-time residence to the west, and approximately 750 feet from the nearest full-time residence to the east. Noise generated from construction under the Preferred Alternative has the potential to adversely affect the health of these residents, as well as disrupt their activities. Since the Historic Core area of Weir Farm NHS is located about one-half mile from the project site, neither visitors at the Park nor Park employees are anticipated to be affected by construction noise.

Table E-1 in Appendix E provides a list of the equipment assumed to be used during construction, as well as their anticipated hours of usage. For the purposes of this analysis, it was assumed that construction would occur approximately 8 hours per day, 5 days a week, over the 10-month construction period. Construction activities were separated into 4 phases:

- Phase 1: Clearing and Site Preparation;
- Phase 2: Excavation;
- Phase 3: Setting the Foundation and Building Erection; and
- Phase 4: Site Finishing, Including Landscaping.

For each phase, only noise from equipment that would likely be used during that particular phase was calculated (i.e., not all equipment was assumed to be used at the same time throughout construction). The noise analysis assumed a worst-case scenario that all equipment within a particular phase of construction was operating at one time, in the same location.

Under this worst-case scenario for each construction phase, the following approximate worst-case noise levels were calculated to be generated at the worksite itself:

- Phase 1: 94.7 dBA;
- Phase 2: 102.4 dBA;
- Phase 3: 97.9 dBA; and
- Phase 4: 97.8 dBA.

The highest worst-case scenario noise level anticipated to be generated at the worksite itself during construction under the Preferred Alternative, or 102.6 dBA, is used for the remainder of the analysis.

This noise level would attenuate (reduce) with increased distance from the construction zone. Assuming that no wind, variations in terrain, foliage, or other factors are taken into consideration, minimum reductions of 3 to 5 dB for each doubling of the distance between the site and receiver would be observed over hard ground (HUD, 1991). Table 3-2 shows the average noise levels anticipated at various distances from the construction site under this worst-case scenario.

Table 3-2. Anticipated Equipment Average Noise Levels at Various Distances from the Pipeline Construction Site

Distance From Site (feet)	Approx. Noise Level (dBA)
0	102.6
100	96.2
200	90.2
300	86.6
400	84.1
500	82.2
750	78.7
1,000	76.2
2,000	70.2

Since the 2 residences located approximately 300 feet from the nearest edge of the construction site would experience the greatest noise impacts from construction, these residences are used as a baseline for the remainder of the analysis. As shown in Table 3-2, under a worst-case scenario,

the highest average noise levels that would be experienced at these residences would be approximately 86.6 dBA. [Note: Noise levels presented here are average noise levels. During certain phases of construction, there may be times (sometimes for periods of only a few seconds) where noise levels are temporarily higher, such as during temporary blasting impulses or rock excavation. Prior to blasting operations, the NPS would notify all surrounding residents so that they are aware of this potential noise source.]

However, the land between the proposed construction site and nearby residences is not hard ground; it is mostly vegetated with second-growth forest, including grass, shrubs, and trees. Factors such as vegetative cover, terrain, wind, and weather impede the propagation of sound, and thereby provide additional attenuation of noise experienced by an observer. Terrain features (such as grass) may add an additional level of sound attenuation equal to 3 to 5 dB per doubling of the distance between the source and receiver, and standing vegetation can provide additional reducing effects, depending on its density and height. For example, sound reductions of up to 7 dB can result from forest stands 100 feet or greater in depth between the source and receiver (NYDEC, 2001). Topography can also greatly effect sound propagation by reflecting sound away from a nearby receptor (HUD, 1991).

While the majority of the land between nearby residences and the nearest construction point is in forest and other vegetative cover, this area is less than 100 feet in depth, and reductions in sound levels provided by this cover would be less than 7dB per doubling of distance. The topography of the area is also fairly steep, with the project site sitting at a higher elevation than all nearby residences except for the adjacent seasonal residence, which is located at a higher elevation than the project site. Sound generated by construction activities would be partially reflected by this slope, further reducing the noise level reaching this residence.

Structural features, such as walls and windows, also affect sound propagation. Sound typically enters a building through its acoustically weakest points, including windows and doors. However, the materials of which these points are composed (glass, wood, etc.) provide additional sound reduction. Depending on the types of materials and their thickness, additional sound reductions of between 2 dBA and 20+ dBA could be expected (HUD, 1991). Since the nearby residences were constructed fairly recently, these structures likely provide sound attenuation equivalent to the middle portion of this range (10 to 12 dBA).

Even with all of these various types of sound attenuation, it is possible that the noise levels experienced at nearby residents during construction could be in the "normally unacceptable" range for residential areas. However, it is highly improbable that all equipment would be running at the same time and at the same location during construction. All construction noise would be short-term in duration, lasting only the construction period. In accordance with the Town of Ridgefield's Noise Control Ordinance, construction activities would only occur between 7 a.m. and 6 p.m. from Monday through Friday, and between 9 a.m. and 5 p.m. on Saturday (no construction on Sundays). In addition, any drilling or blasting would be permitted only between 8 a.m. and 5 p.m. Monday through Friday. Although disruptions and annoyances at nearby residences may occur due to noise, with these restrictions in place, the overall noise impacts from construction would be short-term, minor, and localized, only affecting residents immediately surrounding the construction site.

The transport of equipment and other materials to and from the Headquarters Area and the construction sites would require the use of large trucks, which would generate noise, and would not be restricted to the area adjacent to construction. These noise sources would be transient, and would only affect a given area for a few seconds. Truck traffic would use existing roads to access the project site, which already experience similar vehicular noise impacts.

Only negligible and localized noise impacts would be anticipated from the project site over the long-term. All long-term noise impacts would be associated with vehicular traffic to and from the new facility, and this would not be a continuous source of noise. Negligible to minor noise impacts may be experienced at the new facilities and adjacent residences during peak a.m. and p.m. weekday rush hours. However, this vehicular noise is not anticipated to disrupt nearby residents over the long-term.

3.4.3.3 Cumulative Impacts

Cumulative impacts on noise levels would occur if there are other projects currently occurring or projected to occur during the time the proposed action is implemented that would add to noise created as a result of the proposed action. Past projects that had short-term impacts on noise levels, but are no longer occurring, would not contribute to cumulative current or projected noise levels. Present and future projects occurring or projected to occur in the area of effect for noise under the proposed action include construction a new home on Old Branchville Road across the street from the project site, vegetative clearing and subsequent construction of a new home on the former Valentine property, and rehabilitation of Nod Hill Road. Impacts on noise levels from these present and future actions, when taken together, would be short-term, minor to moderate, localized, and adverse, and would cumulatively affect nearby (surrounding) residents. None of these projects would result in long-term impacts on noise levels.

No Action Alternative

Since the No Action alternative would not impact noise levels in the region, this alternative would not contribute to cumulative noise impacts.

Preferred Alternative

The Preferred Alternative would result in short-term, minor, localized, adverse noise impacts; only negligible and localized noise impacts are anticipated over the long-term. The cumulative effects on noise levels from other present and reasonably foreseeable future projects, in conjunction with the Preferred Alternative, would be short-term, moderate, adverse, and localized. The Preferred Alternative would contribute a small, but measurable, amount to the total cumulative effects, assuming these other projects occur simultaneously with the Preferred Alternative. Since the other present and future projects discussed above would not contribute to long-term impacts on noise levels, there would be no long-term cumulative impacts on noise levels associated with the Preferred Alternative.

3.4.3.4 Conclusion

No Action Alternative

The No Action alternative would not directly, indirectly, or cumulatively impact noise levels in the region.

Preferred Alternative

Overall, construction noise impacts under the Preferred Alternative would be short-term, minor, and localized, only affecting residents immediately surrounding the construction site. Only negligible and localized noise impacts associated with increased vehicular traffic to the project site would be anticipated over the long-term. The cumulative effects on noise levels from other present and reasonably foreseeable future projects, in conjunction with the Preferred Alternative, would be short-term, moderate, adverse, and localized.

3.4.4 Visual Resources

3.4.4.1 Affected Environment

Most of the Westervelt-DiNapoli-Lecher property is currently covered in second growth deciduous forest. The portion of the site closest to Old Branchville Road is cleared of forest and is the location of the Westervelt House, a residence built in 1997. The house is landscaped with ornamental plantings and a lawn. Development adjacent to the site consists of residential properties with large, moderate to heavily wooded lots. The exception to this is the former Valentine property to the south of the Westervelt-DiNapoli-Lecher property, which has recently been cleared of vegetation in preparation for construction of a new residence (Turner, 2004b). Roads in the area have limited visibility as a result of hilly topography and vegetative cover. Old Branchville Road is designated as a scenic road by the town of Ridgefield.

3.4.4.2 Environmental Consequences

No Action Alternative

The current visual quality of the site would not be altered by the No Action alternative. The Westervelt House would remain visible from Old Branchville Road and the remainder of the site would remain in forest cover, blending with the surrounding properties.

Preferred Alternative

Overall, impacts on visual quality from construction would be short-term, negligible to minor, and localized. During the construction phase, construction equipment, workers, signage, and refuse containers would be found in and around the project area. Construction activities would be visible from the front of the Westervelt House, as well as from adjacent properties. However most of the large equipment would be stored at the southern end of the site, out of view from Old

Branchville Road. Along Old Branchville Road, alternations to the entry drive, north façade, and front lawn of the Westervelt House would be visible. A stormwater detention basin at the site's lowest point along Old Branchville Road (the northwest corner of the site) would visible from the road until vegetation is established (NPS, 2003). All areas disturbed during construction would be seeded with a native seed mixture and allowed to revegetate. Revegetation of these areas would alleviate much of the adverse visual quality impacts associated with disturbance of these areas over the long-term, but the area could remain impacted until the revegetated areas have matured to pre-disturbance conditions. None of the construction activities would be visible from the Historic Core area of Weir Farm, although visitors may see the construction site while traveling to and from the NHS.

Trees would be cleared to accommodate the proposed maintenance/curatorial facility, altering views into the site, most notably from the Goldsmith property to the southwest. Views into the maintenance/curatorial facility site from surrounding properties would reveal a building complex designed to fit into the existing land form and blend with the surviving agricultural remnants in the landscape. Current site plans call for vegetative screening between the new facilities and surrounding residences to minimize the visual intrusion of contemporary development (NPS, 2003).

The ornamental plantings and lawn in front of the Westervelt House would be replaced with a naturalistic, woodland planting plan emphasizing native plants and requiring less maintenance (NPS, 2003). This would alter the views into the site from adjacent properties and from Old Branchville Road; however, the overall character of the views would not be impacted. The signage identifying the new facility would be located on Old Branchville Road and would be small and designed to NPS standards to reduce adverse visual impacts. The altered landscape and changes to the Westervelt House would not alter Old Branchville Road's scenic road designation. The NPS would comply with the Town of Ridgefield's Code Article VI, *Scenic Roads*. The overall long-term impacts to visual quality of the site would be minor and localized.

The Preferred Alternative would also have a minor, long-term, beneficial impact to visual resources by removing maintenance equipment from the Historic Core area. This would improve visitor experience and maintain the natural landscape of the Park.

3.4.4.3 Cumulative Impacts

Cumulative impacts on visual quality would result from other projects or developments that have occurred or are projected to occur within the same viewshed that would change the visual quality within the viewshed to an extent greater than that identified as resulting from the alternatives. The viewsheds impacted by the proposed project include the residential area in the immediate vicinity of the Westervelt-DiNapoli-Lecher property and the Historic Core of Weir Farm NHS. Since the Westervelt-DiNapoli-Lecher property and surrounding area is not visible from the Historic Core, and vice versa, cumulative impacts on these viewsheds are analyzed separately.

Past, present, and future projects that have impacted or would impact visual resources in the vicinity of the Westervelt-DiNapoli-Lecher property include construction a new home on Old Branchville Road across the street from the proposed project site, vegetative clearing and

subsequent construction of a new home on the former Valentine property, and rehabilitation of Nod Hill Road. Impacts on visual resources in the vicinity of the Westervelt-DiNapoli-Lecher property from these past, present, and future actions have included or would include short-term, minor to moderate, localized, adverse impacts associated with construction or rehabilitation activities; long-term, negligible, localized, visual impacts on the developed area from new residential structures; and long-term, minor to moderate, localized, adverse impacts on views from surrounding residences due to vegetative clearing at the former Valentine property. When taken together, the cumulative impacts on visual resources in the vicinity of the Westervelt-DiNapoli-Lecher property from these other projects would be short- and long-term, minor to moderate, localized, and adverse.

Past, present, and future projects in the vicinity of the Historic Core that have impacted or would impact the viewshed of the Historic Core include the installation of a pedestrian walkway in the Historic Core and implementation of the cultural landscape preservation and restoration program. Impacts on visual resources in the viewshed of the Historic Core from these past, present, and future actions have included or would include short-term, minor, localized, adverse impacts associated with installation of the new walkway; long-term, negligible, localized, visual impacts associated with the presence of the new walkway; and long-term, moderate to major, localized, beneficial impacts from implementation of the cultural landscape preservation and restoration program at the Historic Core. When taken together, the cumulative impacts on visual resources in the vicinity of the Historic Core from these other projects would be minor, localized, and adverse over the short-term, and moderate to major, localized, and beneficial over the long-term.

No Action Alternative

Since the No Action alternative would not impact the visual quality of the area, this alternative would not contribute to cumulative impacts on visual quality.

Preferred Alternative

In the vicinity of the Westervelt-DiNapoli-Lecher property, the Preferred Alternative would have a short-term, negligible to minor, localized, adverse impact, and a long-term, minor, localized, adverse impact on visual resources. The cumulative effects on visual resources in the vicinity of the Westervelt-DiNapoli-Lecher property from other present and reasonably foreseeable future projects, in conjunction with the Preferred Alternative, would be short- and long-term, moderate, adverse, and localized. The Preferred Alternative would contribute a relatively small increment to these total cumulative effects.

In the vicinity of the Historic Core, the Preferred Alternative would have a long-term, minor, localized, beneficial impact on visual resources. The cumulative effects on visual resources in the vicinity of the Historic Core from other present and reasonably foreseeable future projects, in conjunction with the Preferred Alternative, would be long-term, major, beneficial, and localized. The Preferred Alternative would contribute a relatively small increment to these total cumulative effects.

3.4.4.4 Conclusion

No Action Alternative

No direct, indirect, or cumulative impacts on visual quality would result from the No Action alternative. This alternative would not result in the impairment of the park's visual resources.

Preferred Alternative

In the vicinity of the Westervelt-DiNapoli-Lecher property (viewsheds from surrounding roads and neighboring residences), the Preferred Alternative would have a short-term, negligible to minor, localized, adverse impact, and a long-term, minor, localized, adverse impact on visual resources. In the vicinity of the Historic Core, the Preferred Alternative would have a long-term, minor, localized, beneficial impact on visual resources due to the removal of maintenance equipment from the Historic Core area. Cumulatively, the Preferred Alternative would contribute a relatively small increment to short- and long-term, moderate, localized, adverse visual quality impacts in the vicinity of the Westervelt-DiNapoli-Lecher property and to long-term, major, localized, beneficial visual quality impacts in the vicinity of the Historic Core. The Preferred Alternative would not result in the impairment of the park's visual resources.

3.5 Visitor Use and Experience

3.5.1 Affected Environment

Visitation to Weir Farm NHS has been relatively stable over the past five years (ranging between 15,058 to 17,643 people per year), but is anticipated to increase annually over the next few years (NPS, various). Weir Farm NHS currently provides a variety of visitor use and interpretive opportunities. In addition to interpretive programs focused on the artists associated with Weir Farm, the Park lends itself to low-impact activities such as bird watching, hiking, photography, painting, landscape viewing, and touring historic structures (NPS, 1995). Currently, a few of the historic structures in the Burlingham Complex are being used for storage of Park maintenance equipment, and are not able to be used for interpretive purposes. In addition, storage of Park equipment in the Historic Core area increases traffic in and around Weir Farm NHS, which poses risks to visitor safety, particularly the safety of pedestrians. Touring Weir Farm requires crossing both Nod Hill Road and Pelham Road (NPS, 1995), which are used by NPS maintenance staff to access equipment.

The majority of the Park's museum collections are stored at a leased space in an old wire mill in Georgetown; the remainder of the objects are displayed or stored in the visitor center, Weir House, Weir and Young Studios, or the Weir barn on the Historic Core area of Weir Farm. None of these buildings have storage conditions that comply with NPS museum standards, and the adequate preservation of these collections is not currently ensured. In addition, relatives of three generations of artists (potential donors) have cited the lack of museum quality facilities as a reason for not donating art to the Park.

The Park's visiting artist program invites visual artists to work at Weir Farm presenting various programs to the visiting public, and is seen as the first phase of an Artist in Residence Program at Weir Farm. One of the primary objectives stated in the Park's GMP is to establish an Artists in Residence Program with housing in the Burlingham House and studios and interpretive programs in other Burlingham Complex structures (NPS, 1995).

3.5.2 Environmental Consequences

No Action Alternative

The No Action alternative would not directly affect visitor use and experience at Weir Farm NHS. However, visitor use and pedestrian conflicts would continue under this alternative with continued storage of Park maintenance equipment in the Historic Core area. In addition, the historic structures in which equipment is currently stored would continue to not be used for interpretation at the Park. Continued storage of museum collections in unsuitable conditions throughout the area would not preserve them over the long-term, and could potentially inhibit future interpretation of these items. As a result, other important collections may not be donated in the future, undermining the overall mission of the Park. The No Action alternative would also not allow the Burlingham House to be renovated to house the Artists in Residence Program, and this GMP objective would not be met. In sum, long-term, minor to moderate, adverse impacts on visitor use and experience would continue under the No Action alternative.

Preferred Alternative

Construction activities are not anticipated to interfere with or noticeably affect visitor use and experience at Weir Farm NHS. While visitors may view the construction site while traveling to and from the Historic Core area, the construction site would not be visible from any visitor use areas at the Park. In addition, given the distance between the project site and the Historic Core area, noise from the site is not anticipated to reach these areas in sufficient levels to disturb visitor uses. Overall, only short-term, negligible, adverse impacts on visitor use and experience would result from construction activities.

Over the long-term, moderate, beneficial impacts on visitor use and experience would occur as a result of the Preferred Alternative. Relocating maintenance equipment out of the Historic Core area would enhance visitor experience by allowing the historic structures currently housing this equipment to be used for interpretive purposes and programs and by reducing wear and tear on these structures, preserving them for future use. In addition, since NPS staff would no longer have to travel within the Historic Core area to access this equipment, visitor/pedestrian conflicts within the NHS would be reduced. The proposed new curatorial facilities would house current and future donor collections under museum standard conditions, preserving them for future use and visitor interpretation.

Consolidating equipment and workers at a centralized location would also make staff more efficient, enabling Park staff to thoroughly focus on Park resources and respond more effectively to resource and maintenance problems. Relocating administrative offices out of the Burlingham House would free this structure for use of the Artists in Residence Program, and would be in

keeping with the objectives outlined in the GMP. The Park views the Artists in Residence Program as a vital element of interpretation at the Park. Artists would be encouraged to offer a variety of interpretive and educational programs to visitors. Enabling this program under the Preferred Alternative would slightly increase visitation to Weir Farm NHS over the long-term, although this increase would be negligible.

3.5.3 Cumulative Impacts

As discussed in Section 3.1.3 above, Weir Farm NHS has been, and plans to continue to, undertake many projects aimed at enhancing visitor use and experience at the Park. Past, present, and future projects in the vicinity of the project area that have impacted or would impact visitor use and experience include construction of a safe pedestrian walkway in the Historic Core area, renovation of several Historic Core area buildings (including the Caretakers Cottage and Garage and the Burlingham House) for enhanced interpretation, preservation, and for use in the Artists in Residence Program, and preservation and restoration of Weir Farm's cultural landscape (including rehabilitation/restoration of circulation systems, meadow areas, and viewsheds). Impacts on visitor use and experience from these past, present, and future actions have included or would include short-term, minor, localized, adverse impacts associated with construction or rehabilitation activities; long-term, minor, localized, beneficial impacts on visitor safety; and long-term, moderate, localized, beneficial impacts from preservation, restoration, and enhanced interpretation of historic structures and the cultural landscape of Weir Farm NHS. When taken together, the cumulative impacts on visitor use and experience from these other projects would be long-term, localized, beneficial, and moderate in intensity.

No Action Alternative

Implementation of the No Action alternative would not work to enhance visitor use and experience; rather, it would result in continued, minor to moderate, adverse impacts on visitor use and experience. While some of the projects listed above would still occur if this alternative is implemented, and would enhance visitor experience at Weir Farm NHS, other projects, including renovation of Historic Core area buildings for the Artists in Residence Program would not be able to occur, since the buildings would remain in use as administrative and storage spaces. Therefore, the cumulative effects on visitor use and experience from other past, present, and reasonably foreseeable projects, in conjunction with the No Action alternative, would be minor to moderate and adverse over the short-term, and minor, adverse and beneficial over the long-term. The No Action alternative would contribute a measurable increment to adverse cumulative impacts on visitor use and experience. While the No Action alternative would not work towards beneficial long-term impacts on visitor use and experience, implementation of those other planned projects that could still occur under this alternative would enhance visitor use and experience at Weir Farm over the long-term.

Preferred Alternative

The Preferred Alternative would result in short-term, negligible, adverse impacts on visitor use and experience due to construction activities, and long-term, moderate, beneficial impacts on visitor use and experience due to enhanced preservation and interpretation of historic structures

and collections, reduced visitor/pedestrian conflicts, and enabling the Artists in Residence Program at the Park. The cumulative effects on visitor use and experience from other present and reasonably foreseeable future projects, in conjunction with the Preferred Alternative, would be minor, adverse, and localized over the short-term, and moderate, beneficial, and localized over the long-term. Since implementation of the Preferred Alternative would allow for future renovations of Historic Core buildings to occur for use in the Artists in Residence Program, this alternative would contribute a measurable increment to the total beneficial cumulative effects on visitor use and experience.

3.5.4 Conclusion

No Action Alternative

The No Action alternative would not directly affect visitor use and experience at Weir Farm NHS; however, long-term, minor to moderate, adverse impacts on visitor use and experience would continue. The cumulative effects on visitor use and experience from other past, present, and reasonably foreseeable projects, in conjunction with the No Action alternative, would be minor to moderate and adverse over the short-term, and minor, adverse and beneficial over the long-term. The No Action alternative would contribute a measurable increment to adverse cumulative impacts on visitor use and experience.

Preferred Alternative

Only short-term, negligible, adverse impacts on visitor use and experience would result from construction activities under the Preferred Alternative. Long-term impacts on visitor use and experience resulting would be moderate and beneficial due to enhanced preservation and interpretation of historic structures and collections, reduced visitor/pedestrian conflicts, and enabling the Artists in Residence Program at the Park. The Preferred Alternative would contribute a measurable amount to long-term, moderate, beneficial cumulative effects on visitor use and experience.

3.6 Park Operations and Maintenance

3.6.1 Affected Environment

Park Operations

Currently, the Park's small maintenance equipment (such as snowblowers, shovels, etc.) is stored in the Weir Farm Historic Core area, while large equipment (such as wood working tools) and Park vehicles are kept at a leased space in a former wire mill in Georgetown, Connecticut. The wire mill is located about three miles from the Weir Farm NHS, and is gated after business hours. NPS maintenance personnel and natural resource staff also operate out of the wire mill. This separation of NPS personnel and maintenance equipment from the Weir Farm NHS is currently resulting in less efficient Park operations due to increased staff travel time between Weir Farm and the location of equipment storage and staff offices, increased NPS response time

in the event of a maintenance or natural resource emergency, and reduced communication between staff at the NHS and staff offices at the wire mill.

The Burlingham House on the Weir Farm NHS currently houses Weir Farm Trust personnel and NPS support staff. Use of the Burlingham House as staff offices is currently hindering Park operations due to structural restraints. These structural restraints include low ceilings and weight-bearing issues on the second floor of the house, such that heavier office equipment and supplies (e.g., file cabinets) cannot be located on the second floor. Staff working out of the Burlingham House also currently use almost half of the very limited visitor parking spaces available at Weir Farm (Turner, 2004b). In addition, one objective in the Weir Farm GMP/EIS is to provide housing for visiting artists in the Weir Farm Trust Artists in Residence Program at the Burlington House (NPS, 1995), an objective that is currently not being met.

The majority of Weir Farm's museum objects are housed in the above-mentioned former wire mill in Georgetown. Other objects are stored on the Weir Farm NHS at the visitor center, Weir House, Weir and Young Studios, and the Weir barn. The NPS curatorial staff is currently split between the Burlingham House on Weir Farm and the former wire mill in Georgetown. The separation of curatorial staff from the majority of the Park's museum objects and from each other currently reduces staff efficiency due to increased travel time between the storage sites and offices and due to reduced communications.

Building Compliance

The Westervelt House, a residence that is currently not used, is located on the recently acquired Westervelt-DiNapoli-Lecher property, approximately one-half of a mile northeast of the Weir Farm Historic Core area. This House is currently not ADA compliant and does not have fire suppression or alarm systems in place. The Burlingham House is also currently not in compliance with ADA and lacks a fire suppression system.

3.6.2 Environmental Consequences

No Action Alternative

Park Operations

Under the No Action alternative, a new maintenance/curatorial facility would not be constructed on the newly acquired property, and the Westervelt House would not be renovated as administrative office space. NPS staff, equipment, and museum objects would continue to be housed at their current locations in the vicinity of Weir Farm. While the No Action alternative would not directly affect Park operations since operations would not be changed, long-term, moderate, adverse impacts on Park-wide operations would continue under this alternative. NPS staff, including maintenance, natural resource, and curatorial personnel, would continue to experience increased travel time between the Park and office and equipment storage spaces, resulting in continued inefficient operations and increased response times in the event of an emergency maintenance or natural resource situation. In addition, communication between NPS staff would continue to be inefficient due to the separation of key NPS personnel.

Since administrative staff would not be relocated out of the Burlingham House under the No Action alternative, this building would not be able to be used to house the Artists in Residence Program, and this GMP objective would not be met. This would represent a long-term, minor to moderate, adverse impact on Park operations.

Whether occupied or not, the Westervelt House would still require some level of building maintenance over the long-term, although this maintenance would be minimal. Since no NPS staff or other personnel would relocate to this House under the No Action alternative, the costs (including labor hours) of maintaining this building would outweigh the benefits of keeping the building on the property. In addition, efforts to maintain the building could detract somewhat from other maintenance efforts at the Park. These adverse impacts on Park operations and maintenance would be long-term and minor in intensity.

Building Compliance

Under the No Action alternative, the Westervelt House would not be renovated to become in compliance with the ADA or with fire suppression policies. However, since no NPS staff or other personnel would be moved to the Westervelt House under this alternative, continued non-compliance of this building would not have any impact on Park operations. The Burlingham House, as discussed under Section 3.1.3 above and under *Cumulative Impacts* below, is projected to undergo future renovation to make the building ADA-compliant and to install a fire suppression system. The former wire mill is currently leased, not owned, by the NPS, and as such, it is unlikely that the NPS would renovate this building for compliance with the ADA, Life Safety Code® (National Fire Protection Association (NFPA) 101®), NPS *2001 Management Policies*, DO #58, *Structural Fire Management*, and NPS Reference Manual #50B and DO #50B, *Occupational Safety and Health Program*. This would represent a continued, long-term, minor, adverse impact on Park infrastructure.

Preferred Alternative

Park Operations

Construction activities under the Preferred Alternative would have no effect of Park operations, due to the physical separation of the project site from any existing Park offices or functions.

Under the Preferred Alternative, a new maintenance/curatorial facility would be constructed on the Westervelt-DiNapoli-Lecher property, which would provide storage space for the Park's maintenance equipment and museum collections, as well as maintenance and curatorial staff offices. Consolidation of these Park functions and equipment would result in long-term, moderate, beneficial impacts on Park operations. Access to Park maintenance equipment would be improved and travel time reduced, which would improve staff response time in the event of a natural resource or maintenance emergency. In addition, centralizing and consolidating these Park functions would improve communication between Park staff over the long-term.

The Westervelt House would also be renovated under this alternative to provide administrative staff offices and office space for the Weir Farm Heritage Trust. These staff would be relocated from their current location at the Burlingham House. This would free up portions of the Burlingham House for other mission-based uses, such as for the Artists in Residence Program, in keeping with a goal outlined in the GMP, resulting in a long-term, minor to moderate, beneficial impact on Park operations. The Weir Farm Visitor Center would also continue to operate out of the Burlingham House, at least for the foreseeable future.

Building Compliance

NPS *Management Policies 2001*, *Guiding Principles of Sustainable Design*, and NPS DO #42, *Accessibility for Visitors with Disabilities*, require the NPS to reuse existing structures and disturbed sites instead of new construction, wherever and whenever feasible; to conserve energy through sustainable design; and to design, construct, and operate all buildings, and modify existing facilities, where possible, so that they are accessible to, and usable by, persons with disabilities to the greatest reasonable extent. Renovation of the Westervelt House under the Preferred Alternative would reuse an existing building in a previously disturbed area, and would include modifications necessary to meet ADA compliance. Work would also include all necessary utilities and repairs to help meet sustainability requirements. Therefore, renovation of the Westervelt House under the Preferred Alternative would be in compliance with the ADA, NPS *Guiding Principles of Sustainable Design*, and NPS DO #42, *Accessibility for Visitors with Disabilities* over the long-term.

Fire suppression and alarm systems would also be installed in the renovated Westervelt House and in the new maintenance/curatorial facility. These improvements would bring these buildings in compliance with the Life Safety Code® (NFPA 101®), NPS *2001 Management Policies*, DO #58, *Structural Fire Management*, and NPS Reference Manual #50B and DO #50B, *Occupational Safety and Health Program*. Obtaining compliance with these laws and regulations would represent a long-term, localized, minor to moderate, beneficial impact on Park infrastructure.

3.6.3 Cumulative Impacts

There are no other past or present projects in the vicinity of the project area that are impacting Park operations and maintenance. Reasonably foreseeable future projects that would impact park operations and maintenance include renovation of the caretakers cottage and garage and the Burlingham House for ADA and fire safety code compliance. Impacts on Park operations and maintenance from these future actions would include short-term, negligible to minor, localized, adverse impacts due to renovation activities and associated disruptions in work; and long-term, minor, localized, beneficial impacts on Park operations and Park infrastructure/building compliance from improved, safer, and compliant infrastructure.

No Action Alternative

Under the No Action alternative, moderate, adverse impacts on Park-wide operations and minor, adverse impacts on Park maintenance and Park infrastructure/building compliance would

continue over the long-term. While some of the other projects listed above would still occur if the No Action alternative were implemented, and would improve Park operations and Park infrastructure/building compliance, continued use of some Historic Core buildings for equipment storage under this alternative may preclude renovation of these particular buildings for ADA and fire safety code compliance, since they would not be used to house employees or for public purposes. Therefore, the cumulative effects on Park operations and building compliance from other reasonably foreseeable projects, in conjunction with the No Action alternative, would be short- and long-term, minor, and adverse. The No Action alternative would contribute a measurable increment to adverse cumulative impacts on Park operations and infrastructure/building compliance.

Preferred Alternative

The Preferred Alternative would result in long-term, moderate, beneficial impacts on Park operations and building compliance from consolidation of Park functions, improved staff emergency response timing, and ADA and fire safety improvements to Park infrastructure. The cumulative effects on Park operations, maintenance, and building compliance from reasonably foreseeable future projects, in conjunction with the Preferred Alternative, would be moderate, beneficial, and localized over the long-term. Since implementation of the Preferred Alternative would allow for future renovations of Historic Core buildings to occur, this alternative would contribute a substantial increment to the total beneficial cumulative effects on Park operations and building compliance.

3.6.4 Conclusion

No Action Alternative

While the No Action alternative would not directly affect Park operations since operations would not be changed, long-term, moderate, adverse impacts on Park-wide operations would continue under this alternative due to continued inefficiencies in operations, response times, and staff communications. Long-term, minor, adverse impacts on Park maintenance and Park infrastructure/building compliance would continue due to the NPS' incurrence of any maintenance costs associated with an unoccupied Westervelt House, and from continued non-compliance of the wire mill with the ADA and fire safety codes. The cumulative effects on Park operations and building compliance from other reasonably foreseeable projects, in conjunction with the No Action alternative, would be short- and long-term, minor, and adverse.

Preferred Alternative

Consolidation of Park functions and equipment under the Preferred Alternative would result in long-term, moderate, beneficial impacts on Park operations due to improved access to Park equipment, reduced staff travel times, improved staff emergency response times, and improved staff communication. The Preferred Alternative would also result in a long-term, minor to moderate, localized, beneficial impact on building compliance at Weir Farm. The Preferred Alternative would contribute a substantial increment to long-term, moderate, beneficial, and localized cumulative impacts on Park operations and building compliance.

CHAPTER 4 CONSULTATION & COORDINATION

To ensure that the Park and its programs are coordinated with the programs and objectives of State, Federal, and local governments and private organizations, it is the Park's objective to work with these agencies and organizations during the planning process. Consultation and coordination have occurred with numerous agencies during the preparation of this EA/Assessment of Effect. Consultation undertaken for compliance with specific laws is discussed below and in Chapter 5 of this EA. Table 4-1 lists the agencies, organizations, and persons contacted for information, which assisted in identifying issues, developing alternatives, and analyzing impacts of the alternatives.

Table 4-1. Persons and Agencies Contacted

Person Contacted	Agency/Organization
Constance Evans, Executive Director	Weir Farm Trust
Paul Loether, Connecticut State Historic Preservation Officer, Director	Connecticut Historical Commission
Jack Shannahan, Director (Former State Historic Preservation Officer)	Connecticut Historical Commission
Michael J. Amaral, Endangered Species Specialist	United States Department of the Interior, Fish and Wildlife Service, New England Field Office
Peter Hill, Director of Pubic Services	Town of Ridgefield
Steven McAllister, P.E.	Fletcher Thompson
Dr. Clarence Welti, P.E.	P.C. Geotechnical Engineering
Rick Voelker, Lead Engineer	Fletcher Thompson
Betty Brosis, Town Planner	Town of Ridgefield Planning and Zoning Commission and Inland Wetlands Board
Oswald Inglese, Former Director of Planning	Town of Ridgefield Planning and Zoning Commission and Inland Wetland Board
Di Masters, Chair	Town of Ridgefield Planning and Zoning Commission and Inland Wetland Board
Nelson A. Gelfman	Town of Ridgefield Planning and Zoning Commission and Inland Wetland Board
Rudy Marconi, Ridgefield First Selectman	Town of Ridgefield
Abraham Morelli	Ridgefield Board of Selectmen
Mr. and Mrs. Edward Hickey	Residents at the Former Valentine Property
Mr. and Mrs. Valentine	Former Residents
Mr. and Mrs. Donald E. Goldsmith	Residents

4.1 Public Involvement

Public involvement during the NEPA process includes public scoping, public review of the EA/Assessment of Effect, and responses to comments submitted by the public. In accordance with CEQ's regulations for implementing NEPA (40 CFR 1506.6), the NPS has involved the interested and affected public during the preparation of this EA/Assessment of Effect.

Scoping is the effort to involve agencies and the general public in determining the scope of issues to be addressed in the environmental document. Among other tasks, scoping determines important issues and eliminates issues not important; allocates assignments among the interdisciplinary team members and/or other participating agencies; identifies related projects and associated documents; identifies other permits, surveys, consultations, etc. required by other agencies; and creates a schedule that allows adequate time to prepare and distribute the environmental document for public review and comment before a final decision is made. Scoping includes any interested agency, or any agency with jurisdiction by law or expertise (including the SHPO) to obtain early input.

To satisfy scoping requirements for this project, scoping letters were mailed out describing the project and requesting public and agency input on issues to be addressed in the EA/Assessment of Effect. In addition, the NPS issued a press release on January 5, 2004 describing the project. No comments were received from the public during the public scoping period. The NPS also underwent consultations with several State and Federal agencies regarding the project. For a more detailed discussion of the scoping process, including agency consultation letters, refer to Appendix D.

The Park also provided the Town of Ridgefield, Office of Planning and Zoning with opportunity to comment on this project in a meeting held with the Office on January 16, 2004. The Office of Planning and Zoning commented that all exterior building lighting is required to have a full cutoff (all light must be pointed toward the ground). The proposed new maintenance/curatorial facility would be designed in accordance with this requirement.

A copy of this EA/Assessment of Effect was sent to all persons who requested a copy, as well as to other pertinent agencies and individuals potentially affected by the proposed action. This EA/ Assessment of Effect will be available for public review for a minimum of 30 days. During this public review period, written comments on the EA/Assessment of Effect are invited from the public and interested agencies. Multiple parties will review all comments received on the EA/Assessment of Effect, and will prepare appropriate responses to any comments.

CHAPTER 5 LIST OF PREPARERS

U.S. Department of the Interior, National Park Service

David Ballard, Acting Project Manager, Denver Service Center
Hugh Duffy, Project Manager, Denver Service Center
Paul Wharry, Natural Resource Specialist, Denver Service Center
Jane Sikoryak, Cultural Resource Specialist, Denver Service Center
Randy Turner, Superintendent, Weir Farm National Historic Site
Robert Fox, Facility Manager, Weir Farm National Historic Site
Gregory Waters, Horticulturist, Weir Farm National Historic Site
Maria Abonnel, Chief of Visitor Services and Collection Management, Weir Farm National Historic Site

The Mangi Environmental Group

Rebecca Whitney, Project Manager
Robin Olsen, Project Team Lead
Charles Grier, Environmental Analyst
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APPENDIX A

Glossary

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Glossary

A-weighted Decibel (dBA): The A-scale sound level is a quantity, in decibels, read from a standard sound-level meter with A-weighting circuitry. The A-scale weighting discriminates against the lower frequencies according to a relationship approximating the auditory sensitivity of the human ear. The A-scale sound level measures approximately the relative "noisiness" or "annoyance" of many common sounds.

Ambient Air: Any unconfined portion of the atmosphere; open air, surrounding air.

Ambient Air Quality Standards: Standards established on a State or Federal level that define the limits for airborne concentrations of designated "criteria" pollutants (e.g., nitrogen dioxide, sulfur dioxide, carbon monoxide, particulate matter, ozone, lead) to protect public health with an adequate margin of safety (primary standards) and to protect public welfare, including plant and animal life, visibility, and materials (secondary standards).

Archaeological Resources: Any material remains or physical evidence of past human life or activities, which are of archaeological interest, including the record of the effects of human activities on the environment. Archaeological resources are capable of revealing scientific or humanistic information through archaeological research (NPS DO #28, *Cultural Resources Management Guideline*, 1998).

Attainment Area: An area considered to have air quality as good as or better than the National Ambient Air Quality Standards as defined in the Clean Air Act. An area may be an attainment area for one pollutant and a non-attainment area for others.

Average Annual Daily Traffic (AADT): Traffic volume reported as the daily number of vehicles in both directions on a segment of roadway, averaged over one full calendar year.

Best Management Practice (BMP): A practice or combination of practices chosen as the most effective, economical, and practical means of preventing or reducing the amount of pollution generated by non-point sources to a level compatible with State and local water quality goals. Selection of appropriate BMPs depends largely upon the conditions of the site, such as land use, topography, slope, water table elevation, and geology.

Compaction: To make soil dense by mechanical manipulation.

Cultural Landscape: A geographic area, including both cultural and natural resources and the wildlife or domestic animals therein, associated with a historic event, activity, or person exhibiting other cultural or aesthetic values. There are four kinds of cultural landscape, not mutually exclusive: historic site, historic designated landscape, historic vernacular landscape, and ethnographic landscape (NPS DO #28, *Cultural Resources Management Guideline*, 1998).

Cultural Resources: An aspect of a cultural system that is valued by or significantly representative of a culture or that contains significant information about a culture. A cultural resource may be a tangible entity or a cultural practice. Tangible cultural resources are categorized as districts, sites, buildings, structures, and objects for the National Register of Historic Places and as archaeological resources, cultural landscapes, structures, museum objects, and ethnographic resources for National Park Service management purposes (NPS DO #28, *Cultural Resources Management Guideline*, 1998).

Cumulative Impacts: Impacts on the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of which agency (Federal or non-Federal) or person undertakes such other actions; effects resulting from individually minor, but collectively significant, actions taking place over a period of time.

Day-Night Sound Level (Ldn): The average A-weighted sound level recorded during a 24-hour period, which includes 10 dB penalty to levels measured between 2200 and 0700 hours. This penalty compensates for generally lower background noise levels at night and the additional annoyance of nighttime noise events.

Decibels (dB): The unit of measurement of sound level calculated by taking ten times the common logarithm of the ratio of the magnitude of the particular sound pressure to the standard reference sound pressure of 20 micropascals and its derivatives.

Endangered Species: A species that is threatened with extinction throughout all or a significant portion of its range.

Ethnographic Resources: Any site, structure, object, landscape, or natural resource feature assigned traditional legendary, religious, subsistence, or other significance in the cultural system of a group traditionally associated with it.

Floodplain: The lowlands and relatively flat areas adjoining inland waters, including flood prone areas, which are inundated by a flood. The "100-year floodplain" refers to a floodplain that is subject to a one percent or grater chance of flooding in any given year from any source.

Fugitive Dust: Particulate matter composed of soil, uncontaminated from pollutants, resulting from industrial activity. Fugitive dust may include emissions from haul roads, wind erosion of exposed soil surfaces, and other activities in which soil is either moved or redistributed.

Gateway Community: A community that exists in close proximity to a national park, and whose residents and elected officials often have shared interests and concerns regarding decisions that are made in managing the park. Gateway communities usually offer food, lodging, and other services to park visitors. They also provide opportunities for employee housing, and a convenient location to purchase goods and services essential to park administration.

Historic Property: A district, site, structure, or landscape significant in American history, architecture, engineering, archaeology, or culture; an umbrella term for all entries in the National Register of Historic Places (NRHP) (NPS DO #28, *Cultural Resources Management Guideline*, 1998).

Historic Site: The site of a significant event, prehistoric or historic occupation or activity, or structure or landscape whether extant or vanished, where the site itself possesses historical, cultural, or archaeological value apart from the value of any existing structure or landscape (NPS DO #28, *Cultural Resources Management Guideline*, 1998).

Historic Structure: A constructed work, usually immovable by nature or design, consciously created to serve some human activity (NPS DO #28, *Cultural Resources Management Guideline*, 1998).

Invasive Species: An alien (nonnative to the ecosystem) species whose introduction does or is likely to cause economic or environmental harm or harm to human health.

Land Grading: Reshaping the ground surface to a planned elevation and/or slope.

Level of Service (LOS): Rating for a roadway, defined by a range of traffic volume to roadway capacity, which is used to express performance of a roadway segment.

Mitigation: A method or action to reduce or eliminate adverse program impacts.

Museum Collections: Assemblage of objects, works of art, historic documents, and/or natural history specimens collected according to a rational scheme and maintained so they can be preserved, studied, and interpreted for public benefit. Museum collections normally are kept in park museums, although they may also be maintained in archaeological and historic preservation centers (NPS DO #28, *Cultural Resources Management Guideline*, 1998).

Museum Objects: A material thing possessing functional, aesthetic, cultural, symbolic, and/or scientific value, usually movable by nature or design, including prehistoric and historic objects, artifacts, works of art, archival material, and natural history specimens (NPS DO #28, *Cultural Resources Management Guideline*, 1998).

Non-attainment Area: An area that has been designated by the U.S. Environmental Protection Agency and the appropriate state air quality agency as exceeding one or more National Ambient Air Quality Standards.

Prime Farmland: Land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oil seed crops and is available for these uses. Public land is land not available for farming in National forests, National parks, military reservations, and State parks.

Runoff: Non-infiltrating water entering a stream or other conveyance channel shortly after a rainfall.

Sediment: Any finely divided organic and/or mineral matter derived from rocks or biological sources that have been transported and deposited by water or air.

Sedimentation: the process of depositing sediment from suspension in water.

Sensitive Receptor: An area defined as sensitive to noise, such as a hospital, residential area, school, outdoor theater, and protected wildlife species.

Soil Erosion: The removal and loss of soil by the action of water, ice, gravity, or wind.

State Historic Preservation Officer (SHPO): The official within each state, authorized by the state at the request of the Secretary of the Interior, to act as a liaison for purposes of implementing the National Historic Preservation Act (NHPA).

Structure (in terms of cultural resources): A constructed work, usually immovable by nature or design, consciously created to serve some human activity (e.g., buildings, monuments, dams, roads, railroad tracks, canals, millraces, bridges, tunnels, locomotives, forts and associated earthworks, Indian mounds, ruins, fences, and outdoor sculpture). In the National Register program, "structure" is limited to functional constructions other than buildings (NPS DO #28, *Cultural Resources Management Guideline*, 1998).

Threatened Species: A species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Topography: The slope gradient of a site expressed as a relationship of vertical feet over horizontal feet of distance, as well as the visual formation of the land.

Wetlands: Areas that are inundated or saturated with surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil, including swamps, marshes, bogs, and other similar areas.

APPENDIX B

Resource-Specific Impact Definitions

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Soils and Topography

All available information on soils potentially impacted in various areas of the park was compiled. Where possible, map locations of sensitive soils were compared with locations of proposed developments and modifications of existing facilities. Predictions about short- and long-term site impacts were based on previous projects with similar soils and recent studies.

The thresholds of change for the intensity of an impact on soils are defined as follows:

Impact Intensity	Impact Description
Negligible	Soils would not be affected or the effects on soils would be below or at the lower levels of detection. Any effects to soils would be slight. Up to 5 acres of soil would be affected.
Minor	The effects on soils would be detectable. Effects on soil area would be small. Mitigation may be needed to offset adverse effects and would be relatively simple to implement and likely be successful. Five to 10 acres of soil would be affected.
Moderate	The effect on soil would be readily apparent and result in a change to the soil character over a relatively wide area. Mitigation measures would be necessary to offset adverse effects and likely be successful. Ten to 20 acres of soil would be affected
Major	The effect on soil would be readily apparent and substantially change the character of the soils over a large area in and out of the Park. Mitigation measures to offset adverse effects would be needed, extensive, and their success could not be guaranteed. Greater than 20 acres of soil would be affected

Duration:
Short-term – Recovers in less than 3 years.
Long-term – Takes more than 3 years to recover.

Geological Resources

The planning team based the impact analysis and the conclusions for possible impacts to geological resources on the on-site inspection of known and potential geological resources within the park and project area; review of existing literature, studies, and information provided by experts in the NPS and other agencies; and Weir Farm NHS staff insights and professional judgment. Where possible, map locations of geological resources were compared with locations of proposed developments and modifications of existing facilities. Predictions about short- and long-term site impacts were based on previous studies of impacts to geological resources from similar projects and recent scientific data; there are no short-term impacts to geological resources, all impacts are long-term.

The thresholds of change for the intensity of an impact are defined as follows:

Impact Intensity	Impact Description
Negligible	The action would result in a change to a natural physical resource, but the change would be so small that it would not be of any measurable or perceptible consequence
Minor	The action would result in a change to a natural physical resource, but the change would be small and localized and of little consequence.
Moderate	The action could result in a change to a natural physical resource; the change would be measurable and of consequence.
Major	An action that would result in a noticeable change to a natural physical resource; the change would be measurable and result in a severely adverse or major beneficial impact.

Duration:
Short-term: There are no short-term impacts to geological resources.
Long-term: All impacts to geological resources would be long-term.

Air Quality

The 1963 Clean Air Act, as amended (CAA) (42 USC 7401 et seq.), requires Federal land managers to protect Park air quality while the NPS *2001 Management Policies* address the need to analyze air quality during park planning. The CAA provides that the Federal land manager has an affirmative responsibility to protect the Park's air quality related values (including visibility, plants, animals, soils, water quality, cultural and historic resources and objects, and visitor health) from adverse air pollution impacts. Section 118 of the CAA requires the Park to meet all Federal, State, and local air pollution standards. Section 176(c) of the CAA requires all Federal activities and projects to conform to State air quality implementation plans to attain and maintain NAAQS.

Class I areas are afforded the greatest degree of air quality protection. Very little deterioration of air quality is allowed in these areas, and the unit manager has a responsibility to protect visibility and all other air quality related values from the adverse effects of air pollution. Class II areas include all national park system areas not designated as Class I, and the CAA allows only moderate air quality deterioration in these areas. In no case may pollution concentrations violate any of the NAAQS. Weir Farm NHS is designated a Class II area.

The *2001 Management Policies* state that the NPS will assume an aggressive role in promoting and pursuing measures to protect air quality related values from the adverse impacts of air pollution. In cases of doubt as to the impacts of existing or potential air pollution on Park resources, the NPS "will err on the side of protecting air quality and related values for future generations" (NPS, 2000a). The Organic Act and the *2001 Management Policies* apply equally to all areas of the national park system, regardless of CAA designations. Furthermore, the NPS Organic Act and *2001 Management Policies* provide additional protection beyond that afforded by the CAA's NAAQS alone because the NPS has documented that specific Park air quality related values can be adversely affected at levels below the NAAQS or by pollutants for which no standard exists.

Impacts to environmental resources and values include visibility and biological resources (specifically ozone effects on plants) that may be affected by airborne pollutants (ozone, nitrogen oxides (NOx), hydrocarbons, particulate matter (PM)). PM and NOx emissions are evaluated for visibility impairment. VOCs and NOx are precursors to the formation of ozone precursors and are evaluated separately in lieu of ozone emissions. To assess a level of impact on air quality related values from airborne pollutants, both the emissions of each pollutant related to the proposed activity and the background air quality must be evaluated and then considered according to the thresholds defined below.

Impact Intensity	Impact Description
Negligible	No changes would occur or changes in air quality would be below or at the level of detection, and if detected, would have effects that would be considered slight and short- term. Emissions would be less than 50 tons/year for each pollutant, and the first highest 3-year maximum for each pollutant would be less than the NAAQS.
Minor	Changes in air quality would be measurable, although the changes would be small, short- term, and the effects would be localized. No air quality mitigation measures would be necessary. Emissions would be less than 100 tons/year for each pollutant, and the first highest 3-year maximum for each pollutant would be less than the NAAQS.
Moderate	Changes in air quality would be measurable, would have consequences, although the effect would be relatively local. Air quality mitigation measures would be necessary and the measures would likely be successful. Emissions would be greater than or equal to 100 tons/year for any pollutants, and the first highest 3-year maximum for each pollutant would be greater than the NAAQS.
Major	Changes in air quality would be measurable, would have substantial consequences, and be noticed regionally. Air quality mitigation measures would be necessary and the success of the measures could not be guaranteed. Emissions would be greater than or equal to 250 tons/year for any pollutant, and the first highest 3-year maximum for each pollutant would be greater than the NAAQS.

Duration:
Short-term – Air quality recovers in 7 days or less.
Long-term – Air quality takes greater than 7 days to recover.

Cultural Landscapes

As described by the NPS-28, *Cultural Resource Management Guideline*, a cultural landscape is a geographic area associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values. A cultural landscape reflects human adaptation and use of natural resources and is often expressed in the way land is organized and divided, patterns of settlement, land use, systems of circulation, and the types of structures that are built. The character of a cultural landscape is defined both by physical materials, such as roads, buildings, walls, and vegetation, and by use reflecting cultural values and traditions (NPS, 1998). In order for a cultural landscape to be listed in the National Register of Historic Places (NRHP), it must possess significance (the meaning or value ascribed to the landscape) and have integrity of those features necessary to convey its significance. The character defining features of a cultural landscape include spatial organization and land patterns, topography, vegetation, circulation patterns, water features, structures/ buildings, site furnishings, and objects (see *The Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*, 1996).

The thresholds of change for the intensity of an impact on cultural landscapes are defined as follows:

Impact Intensity	Impact Description
Negligible	Impact(s) is at the lowest levels of detection (barely perceptible and not measurable). For purposes of Section 106, the determination of effect would be no adverse effect.
Minor	*Adverse impact* – impact(s) would alter a pattern(s) or feature(s) of the cultural landscape, but would not diminish the overall integrity of the landscape. For Section 106 purposes, the determination of effect would be no adverse effect. *Beneficial impact* – preservation of landscape patterns and features in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*. For Section 106 purposes, the determination of effect would be no adverse effect.
Moderate	*Adverse impact* – impact(s) would alter a pattern(s) or feature(s) of the cultural landscape, diminishing the overall integrity of the landscape. For purposes of Section 106, the determination of effect would be adverse effect. A memorandum of agreement (MOA) is executed among the NPS and applicable State or tribal historic preservation officer and, if necessary, the Advisory Council on Historic Preservation (ACHP) in accordance with 36 CFR 800.6(b). The mitigative measures identified in the MOA reduce the intensity of impact from major to moderate. *Beneficial impact* – rehabilitation of a landscape or its patterns and features in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*. For Section 106 purposes, the determination of effect would be no adverse effect.
Major	*Adverse impact* – impact(s) would alter a pattern(s) or feature(s) of the cultural landscape, diminishing the overall integrity of the resource. For purposes of Section 106, the determination of effect would be adverse effect. The NPS and applicable State or tribal historic preservation officer are unable to negotiate and execute a MOA in accordance with 36 CFR 800.6(b). *Beneficial impact* – restoration of a landscape or its patterns and features in accordance with the Secretary of the Interior's Standards. For Section 106 purposes, the determination of effect would be no adverse effect.

Museum Collections

Museum collections (prehistoric and historic objects, artifacts, works of art, archival documents, and natural history specimens) are generally ineligible for listing in the NRHP. As such, Section 106 determinations of effect are not provided for museum collections. However, museum collections may be threatened by fire, theft, vandalism, natural disasters, and careless acts. The preservation of collections is an ongoing process of preventative conservation, supplemented by conservation treatment, when necessary. The primary goal is preservation of artifacts in as stable condition as possible to prevent damage and minimize deterioration.

For the purpose of analyzing potential impacts, the thresholds of change for the intensity of an impact on museum collections are defined as follows:

Impact Intensity	Impact Description
Negligible	Impact is at the lowest levels of detection — barely measurable with no perceptible consequences, either adverse or beneficial, to museum collections.
Minor	*Adverse impact* –would affect the integrity of few items in the museum collection, but would not degrade the usefulness of the collection for future research and interpretation. *Beneficial impact* – impact (s) would stabilize the current condition of the collection or its constituent components to minimize degradation.
Moderate	*Adverse impact* – would affect the integrity of many items in the museum collection and diminish the usefulness of the collection for future research and interpretation. *Beneficial impact* – would improve the condition of the collection or protect its constituent parts from the threat of degradation.
Major	*Adverse impact* –would affect the integrity of most items in the museum collection and destroy the usefulness of the collection for future research and interpretation. *Beneficial impact* – would secure the condition of the collection as a whole or its constituent components from the threat of further degradation.

Historic Structures

In order for a structure or building to be listed in the NRHP, it must be associated with an important historic context, i.e., it must possess significance, the meaning or value ascribed to the structure or building, and have integrity of those features necessary to convey its significance, i.e., location, design, setting, workmanship, materials, feeling, and association (see National Register Bulletin #15, *How to Apply the National Register Criteria for Evaluation*).

The thresholds of change for the intensity of an impact on historic structures are defined as follows:

Impact Intensity	Impact Description
Negligible	Impact is at the lowest levels of detection with neither adverse nor beneficial consequences. The determination of effect for Section 106 would be *no adverse effect*.
Minor	*Adverse impact* – alteration of a feature(s) would not diminish the overall integrity of the resource. The determination of effect for Section 106 would be *no adverse effect*. *Beneficial impact* – stabilization/ preservation of features in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties*. The determination of effect for Section 106 would be *no adverse effect*.
Moderate	*Adverse impact* – alteration of a feature(s) would diminish the overall integrity of the resource. The determination of effect for Section 106 would be *adverse effect*. An MOA is executed among the NPS and applicable state or tribal historic preservation officer and, if necessary, the ACHP in accordance with 36 CFR 800.6(b). Measures identified in the MOA to minimize or mitigate adverse impacts reduce the intensity of impact under NEPA from major to moderate. *Beneficial impact* – rehabilitation of a structure in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties*. The determination of effect for Section 106 would be *no adverse effect*.
Major	*Adverse impact* – alteration of a feature(s) would diminish the overall integrity of the resource. The determination of effect for Section 106 would be *adverse effect*. Measures to minimize or mitigate adverse impacts cannot be agreed upon and the NPS and applicable state or tribal historic preservation officer and/or ACHP are unable to negotiate and execute a memorandum of agreement in accordance with 36 CFR 800.6(b). *Beneficial impact* – restoration of a structure in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties*. The determination of effect for Section 106 would be *no adverse effect*.

Gateway Communities

The thresholds of change for the intensity of an impact on gateway communities are defined as follows:

Impact intensity	Impact Description
Negligible	The impact is barely detectable and/or will affect few neighbors.
Minor	The impact is slight, but detectable, and/or will affect a minority of neighbors.
Moderate	The impact is readily apparent and/or will affect many neighbors.
Major	The impact is severely adverse or exceptionally beneficial and/or will affect the majority of neighbors.

Duration:
Short-term – Occurs only during the treatment action.
Long-term – Occurs after the treatment action.

Transportation and Traffic

The thresholds of change for the intensity of an impact on transportation and traffic are defined as follows:

Impact Intensity	Impact Description
Negligible	Effects on the transportation network and traffic would be at or below the level of detection; changes would be so slight that they would not be of any measurable or perceptible consequence to the traveler.
Minor	Effects on the transportation network and traffic would be detectable, localized, and would be small and of little consequence to the traveler. Mitigation measures, if needed to offset adverse effects, would be simple and successful.
Moderate	Effects on the transportation network and traffic would be readily detectable, localized, with consequences to the traveler at the regional level. Mitigation measures, if needed to offset adverse effects, would be extensive and likely successful.
Major	Effects on the transportation network and traffic would be obvious, with substantial consequences to the traveler in the region. Extensive mitigation measures would be needed to offset any adverse effects and their success would not be guaranteed.

Duration:
Short-term – Effects last the duration of construction only.
Long-term – Effects last longer than the duration of construction.

Noise/Soundscapes

The NPS *2001Management Policies*, states that the NPS will strive to preserve the natural quiet and natural sounds associated with the physical and biological resources of parks. NPS policy requires the restoration of degraded soundscapes to the natural condition whenever possible, and the protection of natural soundscapes from degradation due to noise (undesirable human-caused sound). The NPS is specifically directed to "take action to prevent or minimize all noise that, through frequency, magnitude, or duration, adversely affects the natural soundscape or other park resources or values, or that exceeds levels that have been identified as being acceptable to, or appropriate for, visitor uses at the sites being monitored." Overriding all of this is the fundamental purpose of the national park system, established in law, which is to conserve Park resources and values. NPS managers must always seek ways to avoid, or to minimize to the greatest degree practicable, adverse impacts on Park resources and values (NPS, 2000a). Noise can adversely affect Park resources by modifying or intruding upon the natural soundscape, and can also indirectly impact resources by interfering with sounds important for animal communication, navigation, mating, nurturing, predation, and foraging functions. Noise can also adversely impact Park visitor experiences by intruding upon or disrupting experiences of solitude, serenity, tranquility, contemplation, or a completely natural or historical environment.

The methodology used to assess noise impacts in this document is consistent with NPS *2001 Management Policies* and *Director's Order #47: Soundscape Preservation and Noise Management.* Context, time, and intensity together determine the level of impact for an activity. It is usually necessary to evaluate all three factors together to determine the level of noise impact. In some cases an analysis of one or more factors may indicate one impact level, while an analysis of another factor may indicate a different impact level, according to the criteria below. In such cases, best professional judgment based on a documented rationale must be used to determine which impact level best applies to the situation being evaluated. National literature was used to estimate the average decibel levels of construction equipment. Areas of use by visitors were identified in relation to where the activity is proposed. Personal observation from Park staff and monthly use reports were used to identify these areas. Other considerations, such as topography and prevailing winds, were then used to identify areas where noise levels could be exacerbated or minimized.

Impact intensity	Impact Description
Negligible	Effects to natural sound environment would be at or below the level of detection and such changes would be so slight that they would not be of any measurable or perceptible consequence to the visitor experience or to biological resources.
Minor	Effects to the natural sound environment would be detectable, although the effects would be localized, and would be small and of little consequence to the visitor experience or to biological resources. Mitigation measures, if needed to offset adverse effects, would be simple and successful.
Moderate	Effects to the natural sound environment would be readily detectable, localized, with consequences at the regional or population level. Mitigation measures, if needed to offset adverse effects, would be extensive and likely successful.
Major	Effects to the natural sound environment would be obvious and have substantial consequences to the visitor experience or to biological resources in the region. Extensive mitigation measures would be needed to offset any adverse effects and success would not be guaranteed.

Duration:
Short-term – Effects occur only during the construction period.
Long-term – Effects occur even after the construction period.

Visual Resources

The thresholds of change for the intensity of an impact on visual resources are defined as follows:

Impact intensity	Impact Description
Negligible	Effects to the visual quality of the landscape would be at or below the level of detection; changes would be so slight that they would not be of any measurable or perceptible consequence to the visitor experience.
Minor	Effects to the visual quality of the landscape would be detectable, localized, and would be small and of little consequence to the visitor experience. Mitigation measures, if needed to offset adverse effects, would be simple and successful.
Moderate	Effects to the visual quality of the landscape would be readily detectable, localized, with consequences at the regional level. Mitigation measures, if needed to offset adverse effects, would be extensive and likely successful.
Major	Effects to the visual quality of the landscape would be obvious, with substantial consequences to the visitor experience in the region. Extensive mitigation measures would be needed to offset any adverse effects and their success would not be guaranteed.

Duration:
Short-term - Effects occur only during the construction period.
Long-term - Effects occur even after the construction period

Visitor Use and Experience

NPS *2001 Management Policies* state that the enjoyment of Park resources and values by the people of the United States is part of the fundamental purpose of all parks and that the NPS is committed to providing appropriate, high-quality opportunities for visitors to enjoy the parks (NPS, 2000a).

Part of the purpose of Weir Farm NHS is to offer opportunities for recreation, education, inspiration, and enjoyment. Consequently, one of the Park's management goals is to ensure that visitors safely enjoy and are satisfied with the availability, accessibility, diversity, and quality of Park facilities, services, and appropriate recreational opportunities.

Public scoping input and observation of visitation patterns, combined with assessment of what is available to visitors under current management were used to estimate the effects of the actions in the various alternatives in this EA/Assessment of Effect. The impact on the ability of the visitor to experience a full range of Park resources was analyzed by examining resources and objectives presented in the Park significance statement. The potential for change in visitor use and experience proposed by the alternatives was evaluated by identifying projected increases or decreases in interpretational or educational experiences and other visitor uses, and determining whether or how these projected changes would affect the desired visitor experience and to what degree and for how long.

The thresholds of change for the intensity of an impact on visitor use and experience are defined as follows:

Impact intensity	Impact Description
Negligible	Changes in visitor use and/or experience would be below or at the level of detection. The visitor would not likely be aware of the effects associated with the alternative.
Minor	Changes in visitor use and/or experience would be detectable, although the changes would be slight. The visitor would be aware of the effects associated with the alternative, but the effects would be slight.
Moderate	Changes in visitor use and/or experience would be readily apparent. The visitor would be aware of the effects associated with the alternative and would likely be able to express an opinion about the changes.
Major	Changes in visitor use and/or experience would be readily apparent and severely adverse or exceptionally beneficial. The visitor would be aware of the effects associated with the alternative and would likely express a strong opinion about the changes.

Duration:
Short-term – Occurs only during the treatment action.
Long-term – Occurs after the treatment action.

Park Operations

Park operations, for the purpose of this analysis, refers to the quality and effectiveness of the infrastructure, and the ability to maintain the infrastructure, used in the operation of the Park in order to adequately protect and preserve vital resources and provide for an effective visitor experience. This includes an analysis of the condition and usefulness of the facilities and developed features used to support the operations of the Park. Facilities affected by this project include the Westervelt House, Burlingham House, structures within the Weir Farm Complex, and the former wire mill located in Georgetown, Connecticut.

Park staff knowledgeable of these issues were members of the planning team that evaluated the impacts of each alternative. Impact analysis is based on the current description of Park operations presented in Section 3.0 of this EA/Assessment of Effect.

The thresholds of change for the intensity of an impact on Park operations are defined as follows:

Impact Intensity	Impact Description
Negligible	Park operations would not be affected, or the effects would be at low levels of detection and would not have an appreciable effect on Park operations.
Minor	The effect would be detectable and would be of a magnitude that would not have an appreciable effect on Park operations. If mitigation was needed to offset adverse effects, it would be simple and likely successful.
Moderate	The effects would be readily apparent and result in a substantial change in Park operations in a manner noticeable to staff and the public. Mitigation measures would be necessary to offset adverse effects and would likely be successful.
Major	The effects would be readily apparent, result in a substantial change in Park operation in a manner noticeable to staff and the public, and be markedly different from existing operations. Mitigation measures to offset adverse effects would be needed, extensive, and success could not be guaranteed.

Duration:
Short-term – Effects lasting for the duration of the treatment action.
Long-term – Effects lasting longer than the duration of the treatment action.

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APPENDIX C

Environmental Laws and Regulations

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Relevant Laws and Regulations	Summary	Affected Resource(s)
National Environmental Policy Act (NEPA) (42 USC 4321-4370)	Requires Federal agencies to evaluate the environmental impacts of their actions and to integrate such evaluations into their decision-making processes.	All
Council on Environmental Quality (CEQ) Regulations (40 CFR 1500-1508)	These regulations implement NEPA and establish two different levels of environmental analysis: the environmental assessment (EA) and the environmental impact statement (EIS). An EA determines whether significant impacts may result from a proposed action. If significant impacts are identified, an EIS is required to provide the public with a detailed analysis of alternative actions, their impacts, and mitigation measures, if necessary.	All
Clean Water Act (CWA) (33 USC 1251 et seq.)	Section 401, the state water quality certification process, gives states the authority to grant, deny, or condition the issuance of Federal permits that may result in a discharge to the waters of the United States based on compliance with water quality standards. Section 404 regulates the discharge of pollutants, including dredged or fill material, into navigable waters of the U.S. through a permit system jointly administered by the U.S. Environmental Protection Agency (USEPA) and the U.S. Army Corps of Engineers (USACE). Nonpoint sources requirements control pesticide runoff, forestry operations, and parking lots/motor pools. Point sources require individual or group permits and must be monitored at the point at which they enter public waters, storm sewers, or natural waterways. Section 303(d) requires states to identify waters not in compliance with water quality standards, develop a list of impaired waters, and develop Total Maximum Daily Loads for those impaired waters. Section 305(b) requires states to report on the quality of navigable waters in their state. Section 311 (j) requires facilities to prepare a Spill Prevention Control and Countermeasure Plan, containing minimum prevention facilities, restraints against drainage, an oil spill contingency plan, etc.	Water Resources, Biological Resources
Clean Air Act (CAA) (42 USC 7401 et seq.)	Among its varied provisions, the CAA establishes standards for air quality in regard to the pollutants generated by internal combustion engines. These standards, known as the National Ambient Air Quality Standards (NAAQS), define the concentrations of these pollutants that are allowable in air to which the general public is exposed ("ambient air").	Air Quality
Endangered Species Act (ESA) (16 USC 1531-1544)	Prohibits the harming of any species listed by the U. S. Fish and Wildlife Service (USFWS) as being either Threatened or Endangered. Harming such species includes not only directly injuring or killing them, but also disrupting the habitat on which they depend.	Biological Resources
Migratory Bird Treaty Act (16 USC 703 et seq.)	Restricts the taking, possession, transportation, sale, purchase, importation, and exportation of migratory birds through permits issued by the USFWS.	Biological Resources
National Emissions Standards for Hazardous Air Pollutants (NESHAP)	Places standards on all hazardous air pollutants and governs such areas as organic liquids, asbestos, polyurethane foam, and wastewater. NESHAP is implemented under USEPA jurisdiction.	Air Quality, Waste Management

Relevant Laws and Regulations	Summary	Affected Resource(s)
Noise Control Act of 1972, as amended by the Quiet Communities Act of 1978 (42 USC 4901 et seq.)	Requires compliance with State and local noise laws and ordinances.	Noise, Human Health and Safety
Archaeological Resources Protection Act (ARPA) 16 USC 470a et seq.)	Ensures the protection and preservation of archeological resources on Federal lands.	Cultural Resources
National Historic Preservation Act (NHPA) (16 USC 470 et seq.)	Provides the framework for Federal review and protection of cultural resources, and ensures that they are considered during Federal project planning and execution. The implementing regulations for the Section 106 process (36 CFR Part 800) have been developed by the Advisory Council on Historic Preservation (ACHP). The Secretary of the Interior maintains a National Register of Historic Places (NRHP) and sets forth significance criteria for inclusion in the register. Cultural resources included in the NRHP, or determined eligible for inclusion, are considered "historic properties" for the purposes of consideration by Federal undertakings.	Cultural Resources
Native American Graves Protection and Repatriation Act (NAGPRA) (25 USC 3001 et seq.)	Protects Native American human remains, burials, and associated burial goods.	Cultural Resources
Safe Drinking Water Act (SDWA) (42 USC 300 et seq.)	Provides for the safety of drinking water throughout the U.S. by establishing and enforcing national drinking water quality standards. Protects public health by establishing safe limits (maximum containment limits) for contaminants based upon the quality of water at the tap, and prevents contamination of surface and ground sources of drinking water. The USEPA is responsible for establishing the national standards; the States are responsible for enforcement of the standards	Water Resources, Human Health and Safety
Resource Conservation and Recovery Act (RCRA) (42 USC 6901 et seq.)	Regulates all aspects of the handling of hazardous waste through RCRA permits issued by the USEPA.	Hazardous Materials
Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 USC 9601 et seq.)	Provided broad Federal authority to respond directly to releases of hazardous materials that may endanger public health or the environment. Established prohibitions and requirements pertaining to closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at these sites, and established a trust fund to provide for cleanup when a responsible party cannot be identified.	Hazardous Materials
National Park Service Organic Act of 1916 (16 USC et seq.)	Established the NPS to manage national parks for the purposes of conserving the scenery, natural resources, historic objects, and wildlife within the parks, and providing for the enjoyment these resources in such manner that will leave them unimpaired for the enjoyment of future generations.	All

Relevant Laws and Regulations	Summary	Affected Resource(s)
Federal Land Policy and Management Act (43 USC et seq.)	Declares that all public lands will be retained in Federal ownership unless it is determined that a use other than public will better serve the interests of the nation. Requires that all public land be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, and environmental aspects of the land. Requires that all public lands and their resources be inventoried periodically and systematically.	All
Americans with Disabilities Act (42 U.S.C. 12101, et seq.)	Requires that businesses provide reasonable accommodations to protect the rights of individuals with disabilities in all aspects of employment. Forbids public services from denying services to people with disabilities participation in programs or activities which are available to people without disabilities. All new construction and modifications must be accessible to individuals with disabilities. For existing facilities, barriers to services must be removed if readily achievable.	Human Health and Safety
Executive Order (E.O.) 11514: Protection and Enhancement of Environmental Quality	Provides leadership for protecting and enhancing the quality of the Nation's environment to sustain and enrich human life.	All
E.O. 11593: Protection & Enhancement of the Cultural Environment	Provides leadership for protecting, enhancing, and maintaining the quality of the Nation's historic and cultural environment.	Cultural Resources
E.O. 12372: Intergovernmental Review of Federal Programs	Directs Federal agencies to consult with and solicit comments from state and local government officials whose jurisdictions would be affected by Federal actions.	All
E.O. 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations	Requires Federal actions to achieve Environmental Justice by identifying and addressing disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations.	All
E.O. 13007: Protection and Accommodation of Access To "Indian Sacred Sites"	Directs Federal agencies to consider Indian sacred sites in planning agency activities.	Cultural Resources
E.O. 13045: Protection of Children from Environmental Health Risks and Safety Risks	Requires Federal actions and policies to identify and address disproportionately adverse risks to the health and safety of children.	All
E.O. 11990: Protection of Wetlands	An overall wetlands policy for all agencies managing Federal lands, sponsoring Federal projects, or providing Federal funds to State or local projects. It requires Federal agencies to follow avoidance/mitigation/ preservation procedures with public input before proposing new construction projects.	Water Resources, Biological Resources

Relevant Laws and Regulations	Summary	Affected Resource(s)
E.O. 11988: Floodplain Management	Requires all Federal agencies to take action to reduce the risk of flood loss, to restore and preserve the natural and beneficial values served by floodplains, and to minimize the impact of floods on human safety, health, and welfare. Because many wetlands are located in floodplains, E.O. 11988 has the secondary effect of protecting wetlands.	Water Resources, Biological Resources
E.O. 12856: Federal Compliance With Right-to-Know Laws and Pollution Prevention Requirements	Requires that the head of each federal agency be responsible for ensuring that all necessary actions are taken for the prevention of pollution with respect to the agency's activities and facilities, and for ensuring that the agency complies with pollution prevention, emergency planning, and community right-to-know provisions.	Hazardous Materials
E.O. 13112: Invasive Species	Requires Federal agencies to prevent new invasive introductions; detect, monitor, and rapidly respond to/control current infestations in a cost-effective and environmentally sound manner; and educate the public about invasive impacts and control methods. Prohibits Federal agencies from authorizing, funding, or carrying out actions that they believe are likely to cause or promote the introduction or spread of invasive species.	Biological Resources
Connecticut Inland Wetland and Watercourses Act, Connecticut General Statutes (CGS Section 22A, 36-42)	Requires local municipalities to establish and administer actions involving wetland alterations.	Water Resources
Inland Wetlands and Watercourses Regulations, Town of Ridgefield, Connecticut	Its purpose is to protect, preserve, maintain and use the inland wetlands within the Town of Ridgefield so that there is a balance between the need for economic stability of the town and the need to protect the environment and ecology. Permits need to be acquired for all proposed work within wetlands and wetland buffer areas.	Water Resources

APPENDIX D

Scoping and Agency Consultation and Coordination

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Scoping Process

The purpose of the scoping process, as outlined in the Council on Environmental Quality (CEQ) regulations for implementing NEPA (40 CFR 1501.7), is to determine the scope of issues to be addressed in the EA/EIS and to identify significant issues relating to the Proposed Action. The lead agency is required to invite input from Federal, State, and local agencies, affected Indian tribes, project proponents, and other interested parties (Section 1501.7 (a)(1)). Scoping is required for all EAs prepared by the NPS. To satisfy scoping requirements for this project, scoping letters were mailed out requesting public and agency input on issues to be addressed in the EA/Assessment of Effect. Letters were sent to all residents adjacent to Weir Farm NHS. Table D-1 lists all persons and agencies/organizations to whom the scoping letters were sent. An example of the scoping letter is presented as Figure D-1. In addition, the NPS issued a news release describing the project. This news releases is presented as Figure D-2.

Table D-1. Persons Who Received the Scoping Letter

Person/Title	Agency/Organization
Jack Shannahan, State Historic Preservation Officer	Connecticut Historical Commission
Michael Amaral, Endangered Species Specialist	United States Department of the Interior, Fish and Wildlife Service, New England Field Office
Di Masters, Chair	Town of Ridgefield Planning and Zoning Commission and Inland Wetland Board
Oswald Inglese, Ridgefield Director of Planning	Town of Ridgefield Planning and Zoning Commission and Inland Wetland Board
Rudy Marconi, Ridgefield First Selectman	Town of Ridgefield Planning and Zoning Commission and Inland Wetland Board
Mr. and Mrs. Donald E. Goldsmith	Residents
Mr. and Mrs. Valentine	Residents

No comments on the project were received from the public during the public scoping period. The Park also provided the Town of Ridgefield, Office of Planning and Zoning with opportunity to comment on this project in a meeting held with the Office on January 16, 2004. The Office of Planning and Zoning commented that all exterior building lighting is required to have a full cutoff (all light must be pointed toward the ground). The proposed new maintenance/curatorial facility would be designed in accordance with this requirement.

The NPS also underwent consultations with several State and Federal agencies regarding the project. These consultation letters are presented in Figures D-3 through D-5.

Figure D-1. Scoping Letter
(Similar letter sent to Mr. and Ms. Valentine)

A3821

September 30, 2002

Mr. and Mrs. Donald E. Goldsmith
102 Nod Hill Road
Ridgefield, CT 06877

Dear Mr. and Mrs. Goldsmith:

I am sending this letter with a belated formal introduction and with information about the status of our efforts to develop an administrative and maintenance facility on the former DeNapoli property. We have selected a Connecticut based Architectural and Engineering Firm, Fletcher-Thompson, to work with National Park Service staff to design the proposed facility. The former Westervelt House and property will be incorporated into this project as we determine the best use of the existing house, roads and utility systems. We will be working closely with the Ridgefield Planning and Zoning Commission and interested community groups. There will also be public involvement as we develop an environmental assessment for the project. We anticipate receiving construction funds in 2004 or 2005.

You may see increased activities near your property as we conduct a detailed property survey, an archeological survey and a cultural landscape inventory. We will make sure the contractors are knowledgeable about boundary lines separating your property and National Park Service property. We do not envision the contractors having any need to access your property. However, we have stressed to them that any requests for information about your property be communicated to my office first. We want to be good neighbors throughout this planning process.

As superintendent of Weir Farm National Historic Site, I look forward to meeting you and responding to questions you may have about this project. Please feel free to stop by my office in the park visitor center or, you may call me at 203-834-1896. I am also available to meet you on site at the property. Thank you for your interest and support of Weir Farm National Historic Site.

Sincerely,

Randy W. Turner
Superintendent

Figure D-2. NPS News Release

National Park Service
U.S. Department of the Interior

Weir Farm
National Historic Site

735 Nod Hill Road
Wilton, CT 06897

203 834-1896 phone
203 834-2421fax

Weir Farm News Release

Release date: Immediate

Contact(s): Randy Turner
Phone number: (203) 834-1896
Date: January 5, 2004
Release code: All contacts

Weir Farm National Historic Site Announces Planning to Begin for Rehabilitation and Construction of Support Facilities

Wilton and Ridgefield, CT: The National Park Service announces that Weir Farm National Historic Site is initiating planning for construction and rehabilitation of park buildings at Weir Farm National Historic Site. The proposed action would construct a new facility in Ridgefield, approximately ½ mile from the historic Weir Farm. It would also include the rehabilitation of an existing non-historic structure for offices. These combined facilities would house the administrative and maintenance functions and house the majority of the site's museum collection. This project was identified in the site's 1995 general management plan (GMP).

Work on an environmental assessment (EA) will begin in early 2004 and a draft EA should be available for public review in the spring or summer of 2004. Congressionally appropriated construction funds are anticipated in 2005. Comments or questions about this project should be directed to: Superintendent Randy Turner, Weir Farm National Historic Site, 735 Nod Hill Road, Wilton, CT 06897; or via email to randy_turner@nps.gov.

EXPERIENCE YOUR AMERICA ™
The National Park Service cares for special places saved by the American people so that all may experience our heritage.

Weir Farm National Historic Site preserves the summer home and workplace of Julian Alden Weir (1852-1919), a leading figure in American art and the development of American Impressionism. The house, studios, farm buildings and landscape integral to Weir's artistic vision survive largely intact, making it the finest remaining landscape of American Impressionism. For over 100 years, the 18th century farm has been used continuously by artists and remains a haven for contemporary artists. For current information about the park and about the variety of special events and programs offered throughout the year, call (203) 834-1896 or visit **www.nps.gov/wefa** .

-nps-

EXPERIENCE YOUR AMERICA ™
The National Park Service cares for special places saved by the American people so that all may experience our heritage.

Figure D-3. NPS Letter to U.S. Fish and Wildlife Service

United States Department of the Interior

NATIONAL PARK SERVICE
Weir Farm National Historic Site
735 Nod Hill Road
Wilton, Connecticut 06897
Tel.: (203) 834-1896
Fax: (203) 834-2421

IN REPLY REFER TO:

N1621

December 22, 2003

Mr. Michael Amaral
Endangered Species Specialist
U.S. Fish and Wildlife Service
70 Commercial Street, Suite 300
Concord, NH 03301-5087

Dear Mr. Amaral:

Reference: **Weir Farm Weir Farm National Historic Site, Replace Lost Maintenance, Curatorial and Administrative Facilities**

Subject: **Current List of Federally Listed Threatened and Endangered Species**

The National Park Service (NPS) is initiating planning to construct and rehabilitate park buildings at Weir Farm National Historic Site, Fairfield County, Connecticut. The proposed action would construct a new facility within a 9-acre support zone, and rehabilitate an existing non-historic house/structure. These combined facilities would house the maintenance and administrative functions and house the majority of the museum collection.

The new facility would occupy approximately 6,450 square feet. It would include 4,050 square feet of light industrial space for maintenance purposes, and 2,400 square feet of maintenance and administrative offices and administrative support area. The project would also include the construction of a 1,620 lineal foot access road to the facility and parking for about 25 vehicles. A copy of a USGS topo map showing the area of impact is enclosed.

As the superintendent of Weir Farm National Historic Site, I am requesting a current list of federally listed threatened or endangered species, species of concern, or any other special status species that might occur in the locality mentioned above, and designated critical habitats, if any, for these species. A copy of your December 21, 2001 letter to Gregory Waters is enclosed.

In order to meet project schedules, I would appreciate your response to me at the address above within 30 days or by January 31, 2004. If you have any questions or comments I can be reached by phone at (203)834-1896.

This letter will serve as a record that the NPS is initiating informal consultation with your agency pursuant to the requirements of the 1973 Endangered Species Act, as amended and 2001 NPS *Management Policies*.

We appreciate your continuing assistance with National Park Service projects.

Sincerely,

Randy W. Turner
Superintendent

cc:

bcc:
DSC-PM, Hugh Duffy
DSC-NRS Paul Wharry
DSC-PIF

2

Figure D-4. Consultation Letter with U.S. Fish and Wildlife Service (Section 7 of the ESA)

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Field Office
70 Commercial Street, Suite 300
Concord, New Hampshire 03301-5087

January 9, 2004

Reference:

Project	Location
Building construction/rehabilitation	Weir Farm National Historic Site, Wilton, CT

Randy Turner
National Park Service
Weir Farm National Historic site
735 Nod Hill road
Wilton, CT 06897

Dear Mr. Turner:

This responds to your recent correspondence requesting information on the presence of federally-listed and/or proposed endangered or threatened species in relation to the proposed activity(ies) referenced above.

Based on information currently available to us, no federally-listed or proposed, threatened or endangered species or critical habitat under the jurisdiction of the U.S. Fish and Wildlife Service are known to occur in the project area(s). Preparation of a Biological Assessment or further consultation with us under Section 7 of the Endangered Species Act is not required.

This concludes our review of listed species and critical habitat in the project location(s) and environs referenced above. No further Endangered Species Act coordination of this type is necessary for a period of one year from the date of this letter, unless additional information on listed or proposed species becomes available.

Thank you for your coordination. Please contact us at 603-223-2541 if we can be of further assistance.

Sincerely yours,

Michael J. Amaral

Michael J. Amaral
Endangered Species Specialist
New England Field Office

Figure D-5. NPS Letter to the Connecticut State Historic Preservation Officer

H42

December 12, 2002

Mr. Jack Shannahan
State Historic Preservation Officer
Connecticut Historical Commission
59 South Prospect Street
Hartford, CT 06106-1901

Dear Mr. Shannahan:

I am writing to you to provide you an update on the status of two projects.

- Artists' Studio – Preliminary archeological investigations were conducted in late summer by National Park Service archeologists. Additional investigations and testing will be done in the spring of 2003. We also plan to submit Section 106 documentation in the early 2003. Schematic designs will be revised based on information from the archeology report and other research. The Weir Farm Trust will fund this entire project.

- New Facility – Funding for the construction of a new maintenance and administrative facility, along with the rehabilitation of the Westervelt House, is still expected in FY2004. We have selected a Connecticut based Architectural and Engineering Firm, Fletcher-Thompson, to work with National Park Service staff to design the proposed facility. Another firm, yet to be selected, will work with us to develop an environmental assessment for the entire project. In early 2003, I would like to arrange a briefing for members of the Commission staff to make sure we appropriately incorporate cultural resources compliance into this assessment.

I will be in contact with your office after January 1, 2003 to make an appointment for our annual meeting. Thank you for support of Weir Farm National Historic Site.

Sincerely,

Randy W. Turner
Superintendent

Figure D-6. Consultation Letter with the Connecticut State Historic Preservation Officer

United States Department of the Interior

NATIONAL PARK SERVICE
Weir Farm National Historic Site
735 Nod Hill Road
Wilton, Connecticut 06897
Tel.: (203) 834-1896
Fax: (203) 834-2421

COPY

IN REPLY REFER TO:

H42

April 2, 2004

Mr. Paul Loether
Connecticut State Historic Preservation Officer
Director, Connecticut Historical Commission
59 South Prospect Street
Hartford, Connecticut 06106

Dear Mr. Loether:

Enclosed you will find a copy of the technical report for the "*Reconnaissance Archaeological Survey for the Proposed Maintenance and Curatorial Facility*" at Weir Farm National Historic Site, in Ridgefield, Connecticut. The report was prepared by A. Peter Mair, principal investigator and Timothy Ives, project archeologist from Public Archaeology Laboratory (PAL), Pawtucket, Rhode Island. This survey was conducted in cooperation with the staff at Weir Farm National Historic Site and National Park Service archeologist James Harmon.

The survey was conducted in accordance with Sections 110 and Sections 106 of the National Historic Preservation Act of 1966 (as amended). The process includes gathering information from existing secondary sources and conducting on-site reconnaissance of the proposed area of disturbance. The "*Environmental Review Primer for Connecticut's Archaeological Resources*" was consulted and referenced throughout the process. In addition, in October 2001, former Director Shannahan, David Poirier and Susan Chandler made a site visit to the proposed location of this facility. This satellite property is approximately one mile from the historic core area of Weir Farm National Historic Site.

Approximately 194 acres of the 245-acre farm owned by J. Alden Weir was listed as a district on the National Register of Historic Places in 1984, and the 59.08-acre Weir Farm National Historic Site (included within the 194 acres) was administratively listed on the National Register on November 30, 1990, after the establishment of the park.

This survey was completed to identify and evaluate any archeological resources for their eligibility for inclusion in the National Register of Historic Places. Therefore, the report focused on the new parcel in relationship to the history and significance of the Weir Farm National Historic Site.

Based on the enclosed report, we seek your concurrence on the following statement, extracted from the management abstract on page one.

"Based on the findings of the reconnaissance archaeological survey, no archaeological sites were identified. As a result, it is our opinion that no historic properties will be impacted by the construction of the National Park Service's proposed maintenance and curatorial facility at Weir Farm National Historic Site. It is also our opinion that no further archaeological investigations are warranted. Current project plans indicate that the proposed facility will avoid the extant stone walls on the property, as well as one or two boulder quarries. Although neither is considered a significant resource, their incorporation into the landscape design of the facility would provide a visual reminder of past use of the project area."

If you concur with our evaluation for the Weir Farm National Historic Site archeology resources, please sign on the space provided and return this letter to this office within thirty days. Thank you for your attention to this report. Should you have any questions, please feel free to contact James Harmon at 617-223-5127.

Sincerely,

for Randy W. Turner

Enclosure

I concur with the above-stated evaluation of Weir Farm National Historic Site.

Connecticut State Historic Preservation Officer — Date 5/24/04

cc: Paul Weinbaum
Allen Cooper
James Harmon
Randy Turner
David Ballard

APPENDIX E

General Conformity Analysis for Air Quality

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General Conformity Analysis for Air Quality

Under the Federal Clean Air Act (CAA), as amended in 1977 and 1990 (40 CFR 50), the U.S. Environmental Protection Agency (USEPA) has established air quality standards in regard to the types of air pollutants emitted by internal combustion engines, such as those in aircraft, vehicles, and other sources. These National Ambient Air Quality Standards (NAAQS) include apply to the ambient air (the air that the general public is exposed to every day). The NAAQS are established for six contaminants, referred to as criteria pollutants, including carbon monoxide, ozone, particulate matter, nitrogen oxides, sulfur dioxide, and lead (USEPA, 2004).

Areas where the ambient air quality does not meet the NAAQS are said to be non-attainment areas. Areas where the ambient air currently meets the national standards are said to be in attainment. Currently, the USEPA classifies Fairfield County (less Shelton), Connecticut, the location of the proposed project, as being in severe non-attainment for ozone (USEPA, 2004; CDEQ, 2004). In addition, Fairfield County is classified by the USEPA as a maintenance area for carbon monoxide (USEPA, 2004). The County was formerly in non-attainment for carbon monoxide, but became in attainment on May 10, 1999 (CDEQ, 2004).

In addition to these six criteria pollutants, Volatile Organic Compounds (VOCs) are a source of concern and are regulated as a precursor to ozone. VOCs are created when fuels or organic waste materials are burned. Most hydrocarbons are presumed to be VOCs in the regulatory context, unless otherwise specified by the USEPA.

Air Quality Analysis

Existing information on air quality was reviewed to identify air quality issues, with particular attention paid to background ambient air quality compared to the primary NAAQS. Relevant regulatory requirements under the conformity provision of Section 176(c) of the CAA, as amended in 1990, provide that Federal agencies are prohibited from engaging in, supporting in any way, providing financial assistance for, licensing, permitting, or approving, any activity which does not conform to an applicable state implementation plan under the CAA. Federal actions must be "in conformity" with whatever restrictions or limitations the State has established for air emissions necessary to attain compliance with NAAQS.

Federal activities that are transit-related must meet USEPA's Transportation Conformity Rule; all other Federal activities are subject to USEPA's General Conformity Rule (40 CFR 51). Since the Preferred Alternative is not transit-related and is located in an area currently designated as in non-attainment, it is subject to the requirements of General Conformity Rule. For Federal actions subject to the General Conformity Rule, a conformity determination must be made for each pollutant where the total of direct and indirect emissions in a non-attainment or maintenance area caused by a Federal action would equal or exceed the thresholds established under the rule. These thresholds are referred to as *de minimus* criteria, and vary depending upon the pollutant. For these purposes, the term *de minimus* refers to, among other things, emissions that are "so small as to be negligible or insignificant." If an action is below the *de minimus* emission threshold, then a conformity determination is not required under the General Conformity Rule. The thresholds established under the General Conformity Rule are 100 tons

per year or less for each in order to qualify for *de minimus*. If the *de minimus* criteria are exceeded, then a conformity determination must be made pursuant to the requirements of the General Conformity Rule.

Construction air emissions estimates were made by first making assumptions as to which equipment would be used during construction and for how long. Once these assumptions were made, the following models and emission factors developed by the USEPA were used to estimate the amount of emissions anticipated to be generated:

- NONROAD Emissions Model (USEPA, 1999);
- Mobile Source Observation Database (USEPA, 2000a); and
- AP-42, Compilation of Air Pollutant Emission Factors, Volume II Mobile Sources (USEPA, 2000b).

Table E-1 lists the equipment expected to be used during construction, and assumptions as to the total number of hours of use. For the purposes of the air quality analysis, it was assumed that construction would occur approximately 8 hours per day (during daylight hours only), 5 days a week, for approximately 10 months in total. Assuming that 20 workdays occur in a given month, the total number of work hours for the project would be approximated 1,600 hours (20 days x 8 hours per day x 10 months). Not all equipment would be used for the entire duration of construction, and not all equipment would be used at the same time.

Some types of heavy equipment have emissions and characteristics similar to other types of equipment; for these equipment types, a general USEPA equipment category was used. In addition, since it is not possible to determine at this time the exact rating (power) for each equipment type proposed for use, a worst-case emissions measurement was used for each type of equipment listed in Table E-1. Actual emissions generated would very likely be less than estimates presented here (in some cases, much less). In addition, small tools and pumps are assumed to run constantly to ensure a worst-case scenario emissions estimate for these equipment types. Assumptions regarding hours of use are designed to be very conservative; in other words, each piece of equipment would likely be used for less time than indicated the table.

Table E-1. Equipment Assumptions For Air Emissions Analysis

Equipment Type/Use**	# of Type at Site	Total Hours*	Total 8-Hour Days*
Crawler/Tractor/Dozer	1	536	67
Tractor/Loader/Dozer (Inc. Backhoes)	2	1,072	134
Truck - Highway	2	800	100
Rollers	1	536	67
Truck - Off Highway	2	800	100
Pavers	1	536	67
Trencher	1	536	67
Grader	1	67	536
Pump, Gasoline 4-stroke	2	3,200	400
Crane	1	536	67
Compactor	1	536	67
Bore/Drill Rig	1	536	67

Table E-1. Equipment Assumptions For Air Emissions Analysis			
Equipment Type/Use**	**# of Type at Site**	**Total Hours***	**Total 8-Hour Days***
Crushing/Processing Equip	1	536	67
Excavators	2	1,072	134
Service Truck	2	800	100
Cement/Mortar Mixer	1	536	67
Rough Terrain Forklift	1	536	67
Paving Equipment	1	536	67
Generator, Gasoline 4-stroke	1	1072	67
Air Compressor	2	1,072	134
Miscellaneous Small Tools		1,600	200
*Total hours and total 8-hour days are listed for the total number of each equipment type in the table. For example, where there are two of an equipment type listed, the number of hours and 8-hour days for that equipment type was multiplied by 2 to give a total number of hours for that equipment type. ** Source: McAllister, 2004			

Using this equipment, along with the projected hours of use, air emissions levels were determined. The results are shown in Table E-2.

Table E-2. Equipment Emissions (in tons) During Construction Activities				
Carbon Monoxide (CO)	**Nitrogen Oxides (NO_x)**	**Sulfur Dioxide (SO_2)**	**Particulate Matter (PM_{10})**	**Volatile Organic Compounds (VOCs)**
22.5	13.3	3.63	1.72	2.54

As shown in Table E-2, none of the criteria pollutants even remotely approach the *de minimus* threshold levels of 100 tons. As stated previously, NO_x and VOCs are ozone precursors, and the combination of these two pollutants should be below the *de minimus* threshold levels of 100 tons in order not to create excessive levels of ozone. Using the above stated scenario, the total emissions from this equipment set would be 13.3 tons of NO_x and 2.54 tons of VOCs. Their sum is well below the 100-ton standard. Additionally, with the virtual elimination of leaded fuels in this country, it would be improbable that there would be any measurable level of lead produced by this action. In sum, the daily and total emissions from equipment used during construction would not be high enough to significantly deteriorate the region's air quality. Only short-term, negligible, adverse impacts on air quality would occur from construction equipment emissions.

In addition to tailpipe emissions from heavy equipment, the temporary disturbance of ground surface during excavation, blasting, and grading activities may lead to fugitive dust emissions. Fugitive dust emissions are comprised of particulate matter of soil or other materials, which are temporarily suspended in air. Utilizing measures like sprinkling to keep the disturbed area damp would minimize fugitive dust emissions during construction to a negligible level.

No long-term adverse impacts on air quality are anticipated as a result of the Preferred Alternative; rather, negligible, localized, beneficial impacts on air quality would be anticipated. Current levels and trends in vehicle emissions from NPS employees would decrease as a result of the Preferred Alternative due to consolidation of staff and equipment at the Park and minimizing travel times required by NPS staff.